DOCUMENT RESUME

ED 134 814 CE 009 985

AUTHOR	Stephenson, Robert W.; Burkett, James R.
TITLE	On-the-Job Training in the Air Force: A Systems Analysis. Final Report.
INSTITUTION	American Institutes for Research in the Behavioral Sciences, Washington, D.C.
SPONS AGENCY	Air Force Human Resources Lab., Brooks AFB, Texas.; Air Force Human Resources Lab., Lowry AFB, Colo. Technical Training Div.
REPORT NO	AFHRL-TR-75-83
BUREAU NO	62703F; 11210502
PUB DATE	Dec 75
CONTRACT	F41609-72-C-0036
NOTE	117p.
EDRS PRICE	MF-$0.83 HC-$6.01 Plus Postage.
DESCRIPTORS	Administrative Personnel; Administrative Policy; Administrator Attitudes; Administrator Role; *On the Job Training; Program Attitudes; *Program Effectiveness; Program Evaluation; *Program Improvement; Record Keeping; Staff Role; Staff Utilization; Supervisors; Surveys; Systems Analysis; Trainees
IDENTIFIERS	Air Force; United States

ABSTRACT

A systems analysis of the Air Force On-the-Job-Training (OJT) System was conducted to describe its operation, structure, requirements, and functions, and to develop new or improved methods and alternatives for evaluating the effectiveness of OJT programs. Seven major command headquarters locations were visited for the purpose of discussing possible ways of improving the system with OJT staffs and to discuss plans to make site visits to field-activity locations. The staffs were asked to comment on plans for field activity questionnaires and to evaluate preliminary ideas for improving OJT programs. A number of base-level field-activity locations were then visited. An analysis was made of OJT policies and procedures at each location. Ways of improving the OJT program were discussed with OJT administrators and work-center superintendents. Questionnaires were criticized and refined by small groups of work-center superintendents, OJT administrators, and trainees. On later site visits, some data was gathered using these questionnaires. Seventeen problem areas were identified during the visits and conferences. The nature of each problem area was defined, in part, by reactions of work-center superintendents and OJT administrators to specific suggestions for improving the Air Force OJT program. Three complete revisions were made and 75 recommendations were under consideration when the field-activity visits ended. Additional information about problem areas was obtained by analyzing survey data collected by the Air Force OJT Advisory Service in their 1973 survey of 1,592 OJT supervisors and 1,580 trainees. Thirty tentative conclusions were drawn. Specific recommendations for program changes were made, including recommendations for field tests and surveys to validate those conclusions that require additional information prior to wide-scale implementation. The specific conclusions and related recommendations, along with individual priority ratings, are included in the report. (LAS)

Documents acquired by ERIC include many informal unpublished materials not available from other sources. ERIC makes every effort to obtain the best copy available. Nevertheless, items of marginal reproducibility are often encountered and this affects the quality of the microfiche and hardcopy reproductions ERIC makes available via the ERIC Document Reproduction Service (EDRS).

ED134814

AFHRL-TR-75-83

CE

AIR FORCE HUMAN RESOURCES LABORATORY

ON-THE-JOB TRAINING IN THE AIR FORCE:
A SYSTEMS ANALYSIS

By

Robert W. Stephenson
American Institutes for Research
1055 Thomas Jefferson St., N.W.
Washington, DC 20007

James R. Burkett

TECHNICAL TRAINING DIVISION
Lowry Air Force Base, Colorado 80230

December 1975
Final Report for Period January 1974 – December 1975

Approved for public release; distribution unlimited.

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

AIR FORCE SYSTEMS COMMAND
BROOKS AIR FORCE BASE, TEXAS 78235

CE 009 985

NOTICE

When US Government drawings, specifications, or other data are used for any purpose other than a definitely related Government procurement operation, the Government thereby incurs no responsibility nor any obligation whatsoever, and the fact that the Government may have formulated, furnished, or in any way supplied the said drawings, specifications, or other data is not to be regarded by implication or otherwise, as in any manner licensing the holder or any other person or corporation, or conveying any rights or permission to manufacture, use, or sell any patented invention that may in any way be related thereto.

This final report was submitted by American Institutes for Research, 1055 Thomas Jefferson Street, N.W., Washington, DC 20007, under contract F41609-72-C-0036, project 1121, with Technical Training Division, Air Force Human Resources Laboratory (AFSC), Lowry Air Force Base, Colorado 80230. Dr. James R. Burkett, Instructional Technology Branch, was the contract monitor.

This effort was partially supported by program element 61101F, In-House Laboratory Independent Research Funds.

This report has been reviewed and cleared for open publication and/or public release by the appropriate Office of Information (OI) in accordance with AFR 190-17 and DoDD 5230.9. There is no objection to unlimited distribution of this report to the public at large, or by DDC to the National Technical Information Service (NTIS).

This technical report has been reviewed and is approved.

MARTY R. ROCKWAY, Technical Director
Technical Training Division

Approved for publication.

DAN D. FULGHAM, Colonel, USAF
Commander

REPORT DOCUMENTATION PAGE

READ INSTRUCTIONS BEFORE COMPLETING FORM

1. REPORT NUMBER: AFHRL-TR-75-83
2. GOVT ACCESSION NO.
3. RECIPIENT'S CATALOG NUMBER

4. TITLE (and Subtitle): ON-THE-JOB TRAINING IN THE AIR FORCE: A SYSTEMS ANALYSIS
5. TYPE OF REPORT & PERIOD COVERED: Final, January 1974 – December 1975
6. PERFORMING ORG. REPORT NUMBER

7. AUTHOR(s): Robert W. Stephenson, James R. Burkett
8. CONTRACT OR GRANT NUMBER(s): F41609-72-C-0036

9. PERFORMING ORGANIZATION NAME AND ADDRESS: American Institutes for Research, 1055 Thomas Jefferson St., N.W., Washington, DC 20007
10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS: 62703F, 11210502

11. CONTROLLING OFFICE NAME AND ADDRESS: HQ Air Force Human Resources Laboratory (AFSC), Brooks Air Force Base, Texas 78235
12. REPORT DATE: December 1975
13. NUMBER OF PAGES: 114

14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office): Technical Training Division, Air Force Human Resources Laboratory, Lowry Air Force Base, Colorado 80230
15. SECURITY CLASS. (of this report): Unclassified
15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

Approved for public release; distribution unlimited.

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

This effort was partially supported by program element 61101F, In-house Laboratory Independent Research Funds.

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

on-the-job training
systems analysis of training
training program evaluation
military training
training management
training techniques
training cost effectiveness

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

A systems analysis of the Air Force OJT system was conducted. After many on-site visits and conferences and interviews with hundreds of supervisors and trainees, 17 problem areas were identified. The nature of each problem area was defined by the reaction of work-center superintendents and OJT administrators to 75 specific suggestions for methods of improving the OJT program in the Air Force. Additional information about problem areas was obtained by analyzing survey data collected by the Air Force OJT Advisory Service in their 1973 survey of 1,592 OJT supervisors and 1,580 trainees, and by analyzing a small amount of questionnaire data collected by the authors. Thirty tentative conclusions were drawn. Specific recommendations for program changes were made, including recommendations for field tests and surveys to validate those conclusions that require additional information prior to wide-scale implementation.

LE 009 585

PREFACE

This report represents a portion of the exploratory development program of the Technical Training Division, Air Force Human Resources Laboratory (AFSC). This effort is documented under project 1121, Technical Training Development; task 112105, Application of Systems Analysis to Air Force Technical Training. The services of the American Institutes for Research (AIR) were obtained through Contract No. F41609-72-C-0036.

Dr. Robert W. Stephenson was principal investigator. Mr. Clifford P. Hahn of AIR was coinvestigator. Dr. James R. Burkett was the Air Force technical monitor.

The authors gratefully acknowledge the contribution of Mr. Clifford P. Hahn who acted as a planning consultant during the early stages. Thanks are also due to Mrs. Halaine Gary and Mrs. BevAnne Ross of AIR, who acted as research assistant and technical editor, respectively. Special appreciation is also due to literally hundreds of Air Force personnel. Major Lloyd L. Tilley of Headquarters, USAF (the Personnel Objective Monitoring Officer for OJT) provided invaluable assistance at several points during the project, and participated actively in many of the decisions that were made, as did representatives of the Air Training Command—especially Senior Master Sergeant Clifford Parks and Senior Master Sergeant William J. Williams of the OJT Advisory Service. MAJCOM Headquarters OJT staffs from ADC, AFCS, AFSC, ATC, MAC, SAC, and TAC helped identify problem areas and suggested a number of ideas for program improvement. Unit training administrators, CBPO OJT staffs, and OJT Advisory Service representatives at Almaden AFS, Brooks AFB, F. E. Warren AFB, Hamilton AFB, Lowry AFB, March AFB, Nellis, AFB, Norton AFB, Randolph AFB, and Sheppard AFB reacted to the initial proposals for program changes, and helped the authors to sharpen and clarify problem statements and suggestions for improving the OJT program. Hundreds of work-center superintendents, supervisors and OJT trainees at these Air Force bases and stations made similar contributions. Without their help the study could not have been conducted.

OVERVIEW

The Assigned Problem

(1) To conduct a systems analysis of the Air Force OJT System and to describe its operation, structure, requirements, and functions.

(2) To develop new or improved methods and alternatives for evaluating the effectiveness of OJT programs.

Tasks To Be Performed During Phase I

(1) To conduct a review of the literature on OJT.

(2) To conduct a systems analysis of the Air Force OJT system.

(3) To identify OJT problem areas.

(4) To recommend alternatives to improve the operation and capability of the OJT training system.

Literature Review

The literature review is reported in a separate report (Stephenson & Burkett, 1974). About 500 selected references were organized into a bibliography, regarding OJT in military and civilian occupations. Major categories include Handbooks and Manuals, Program Evaluation, Cost Effectiveness, Technique Comparison Studies, Systems Analysis of Training, Military Documents, Bibliographies, and Innovations.

Systems Analysis

Seven major command headquarters locations were visited for the purpose of discussing possible ways of improving the system with MAJCOM OJT staffs, and to discuss plans to make site visits to field-activity locations. The MAJCOM OJT staffs were asked to comment on the plans for field activity questionnnaires and to evaluate a number of preliminary ideas for improving the OJT program. The MAJCOMs contacted were ADC, AFCS, AFSC, ATC, MAC, SAC, and TAC.

A number of base-level field-activity locations were then visited. An analysis was made of OJT policies and procedures at each location. Ways of improving the OJT program were discussed with OJT administrators and work-center superintendents. Questionnaires were criticized and refined by small groups of work-center superintendents, OJT administrators, and trainees. On later site visits, some data was gathered using these questionnaires.

OJT Problem Areas

Tentatively, 17 problem areas were identified during the various headquarters and base-level site visits and conferences. The nature of each problem area was defined, in part, by the reactions of work-center superintendents and OJT administrators to specific suggestions for improving the Air Force OJT program. The reasons given why one particular "solution" was not acceptable at the first set of field-activity locations helped in defining the problems. We then revised our recommendations (and added to our list of problems) before visiting the next set of field-activity locations. Three complete revisions were made, and 75 recommendations were under consideration when the field-activity visits ended. Additional information about problem areas was obtained by analyzing survey data collected by the OJT Advisory Service in their 1973 Survey of OJT supervisors and trainees.

Recommendations

Some recommendations were dropped completely because of adverse consequences for other Air Force personnel systems. The surviving recommendations were simplified and condensed into a small number of significant policy issues. The revised list was then organized into two categories action recommendations, and field-test recommendations. These new lists were discussed with representatives of HQ USAF the Air Training Command, and the Extension Course Institute of the Air University, and a number of minor revisions were made. The recommendations were also assigned a preliminary priority. Seven immediate actions and 23 field-tests of possible policy and procedural changes were proposed. These were presented to a worldwide MAJCOM OJT conference, and based upon the consensus and action reprioritization of the MAJCOM representatives, specific actions were undertaken and final recommendations for other actions and field tests emerged. These recommendations are documented in this report. Some require additional information or try-out before they could be implemented. Finally, as part of the OJT data base developed in this study, information was compiled on other military OJT programs, historical perspectives on Air Force OJT policies and procedures, and OJT evaluation. This information base was synthesized as part of the overall analysis effort in an attempt to incorporate the information obtained into a single source document on the Air Force OJT process.

TABLE OF CONTENTS

		Page
I.	Introduction	9
	Objectives of the Project	9
	Project Phases	10
II.	Military OJT Programs	10
	The Characteristics of Military OJT Programs	11
	Military Services Training Programs	11
	Army	11
	Comparison of Army OJT and NET	12
	Army Subject Schedules	12
	Correspondence Courses	12
	Army OJT Objectives	12
	Army Unit Training	13
	Army Enlisted Evaluation System	13
	Marine Corps	15
	Navy	16
	Training Manuals	16
	Navy Unit Training	18
	Advancement in Rating for Navy Personnel	18
	Qualification Requirements	18
	Air Force	18
	Air Force OJT Management and Administration	18
	Air Force OJT Advisory Service Training Programs	20
	Air Force Career Knowledge Training	20
	Air Force Job Proficiency Training	20
	Occupational Knowledge Evaluations	20
	Significant Differences Among the Services	21
III.	Air Force OJT Policies and Procedures	23
	History of Air Force OJT	23
	Advisory Board Review	23
	Dual-Channel System	23
	OJT Standardization	24
	Promotion Criteria	24
	Skill Upgrading Criteria	25
	Career Development Courses (CDC)	25
	Job Proficiency Training	26

Table of Contents (*Continued*)

	Page
Standardized Administrative and Record-Keeping Procedures	26
Duties and Responsibilities for OJT	29
MAJCOM OJT Staffs	29
Commanders	29
CBPO OJT Unit	29
Squadron/Detachment OJT Administrators	29
Immediate Supervisors	29
Trainees	30
Testing Office Responsibilities	30
IV. Evaluating OJT in the Air Force	30
Models for Evaluation of On-the-Job Training	30
Undesirable Consequences of Statistical Evaluation at Headquarters Levels	31
Uses of Statistics by MAJCOM OJT Staffs	33
Major Command OJT Evaluations	34
Inspector General Evaluation Procedures	34
Evaluation and Support by Unit Commanders	34
Evaluation of OJT Programs by the Centralized Base Personnel Office	35
Evaluations by Supervisor-Trainers, Unit OJT Administrators, and Quality-Control Specialists	35
Evaluation by the Trainee	36
Evaluation of CDCs by ECI and ATC	36
V. Exploration of OJT Problem Areas	39
Visits to MAJCOM Headquarters Locations	39
Field-Activity Visits	40
Design and Pretest of OJT Questionnaires and Interviews	41
Information About Problem Areas	41
OJT Advisory Service Survey	42
Problem Area Discussion Items	43
NO. 1. Upgrading Procedures	43
NO. 2. The Need for Required Training in Certain Tasks	43
NO. 3. Revised Record-Keeping Procedures in Maintenance and Other High-Hazard Specialties	44

Table of Contents (*Continued*)

	Page
NO. 4. Revised Record-Keeping Procedures in Nonmaintenance, Support Specialties	45
NO. 5. Task Evaluations in Nonflying, Nonmaintenance Specialties	45
NO. 6. The Need for Periodic Surveys of OJT Trainees	46
NO. 7. Incentives for Progress in OJT	46
NO. 8. Procedures for Low-Aptitude Personnel	47
NO. 9. A Different Approach to Directed Duty Assignments	47
NO. 10. Inspection Procedures	47
NO. 11. "75" Training Personnel	48
NO. 12. Manpower Allocation Procedures	48
NO. 13. Quality of Assignment Procedures	49
NO. 14. CDC Policies and Procedures	50
NO. 15. Possible Improvements in SKT Examinations	51
NO. 16. More Involvement of Line Supervisors and Commanders	51
NO. 17. Give More Recognition to the Fact that Some Work Centers have Unusually Difficult Training Loads	52
Ratings of Problem Area Discussion Items	52
VI. Conclusions and Recommendations	52
Specific Conclusions and Recommendations	53
Discussion	65
References	67
Explanation of Terms	69
Appendix A: Sample Air Force Forms	73
Appendix B: Results of the OJT Advisory Service Survey	79

LIST OF ILLUSTRATIONS

Figure		Page
1	Army MOS evaluation score	14
2	Navy-Active Duty Advancement Requirements	17
3	Air Force skill progression	19
4	Sample proficiency code key	27
5	Sample specialty training standard page	28
6	Sample ECI critique form	37
7	Sample ATC questionnaire form	38
A-1	AF Form 623	74
A-2	Job Proficiency Guide, sample page	77
A-3	AF Form 797—Job Proficiency Guide continuation sheet, showing job proficiency training assignments	78

LIST OF TABLES

Table		Page
1	Estimated Percentage of Navy and Air Force Enlisted Men Trained on the job (by DOD Code)	22
2	WAPS Weighted Factor Scores	24
3	Promotion Eligibility Requirements	25
4	CDCs by Skill Levels	25
5	Models for Evaluation of On-the-Job Training	31
6	Agenda Items for Field Activity Visits	40
7	Supervisor Opinions About Excessive Conditions That Create Problems for OJT Programs	42
8	Supervisor Opinions About Conditions Inadequate for OJT Programs That Create Problems	42

ON-THE-JOB TRAINING IN THE AIR FORCE: A SYSTEMS ANALYSIS

I. INTRODUCTION

This is one of several reports describing work accomplished during a two-year study of the Air Force on-the-job training (OJT) system. An earlier report (Stephenson & Burkett, 1974) contains an extensive review of the on-the-job training literature. The present report describes a systems analysis of the Air Force OJT program.

The Air Force OJT system is vast and complex, both from a training and a management standpoint. This OJT system encompasses a wide diversity of Air Force technical specialties and command missions, and the system must provide training to a broad mix of trainees having varying aptitudes and levels of Air Force experience. A variety of training materials, directives, and instructional approaches are used. Because of its diversity and complexity, the OJT process is expensive and difficult to manage. It is also understandably difficult to evaluate in terms of training adequacy and cost effectiveness.

There is a need for better and more easily applied methods of monitoring and evaluating the Air Force OJT program in terms of costs, quality and effectiveness of training provided, determination of optimal OJT-resident school mix, and timeliness in incorporating innovative OJT instructional techniques as they become available. While it is recognized that actual job performance is the ultimate criterion of training success, performance test development and administration are often too costly to be practical for so vast a training system as Air Force OJT. There is, therefore, a need for periodic exploration of new evaluation and training techniques that could improve OJT effectiveness.

Additionally, there is a need to compile the available information on the Air Force OJT operation into a single useful source document with recommendations for areas where the system can be most easily and rapidly improved. The compilation of such documentation requires an information base grounded in a thorough analysis of the present OJT process. It was also anticipated that such an information base, provided by a systems approach to analyzing the OJT program, would allow identification of potentially high payoff areas for modifying the present system, and would further serve as a source for identifying and developing new methods for evaluating the effectiveness of OJT programs.

The potential cost savings of a systems analysis of the OJT program are considerable. All Air Force enlisted personnel participate in the Air Force OJT program at various points in their careers. The total number of man-years invested in this critical type of training is estimated at approximately 10% of the authorized enlisted strength of the Air Force at any given time.

In spite of its importance, the research funds and management attention devoted to this program have been relatively trivial compared to that devoted to resident school training programs. This has been true, in part, because the OJT program is a successful, rapidly adaptive program with which most people seem to be satisfied. In spite of its success, however, costs of any program affecting so many personnel are so great that even a minor procedural change resulting in a very slight improvement in program effectiveness could be worth many millions of dollars to the Air Force. Consequently, research, innovation, and evaluation can potentially provide a large payoff. Since it had been a long time (1962) since someone took a really hard look at the whole program, it was felt that a thorough analysis was needed.

Objectives of the Project

An Air Force research requirement was formulated and modified as a result of extensive consultations with a variety of interested headquarters locations. The objectives of the investigation were finally stated as follows:

1. Describe the operation, capabilities, and functional requirements of OJT as presently conducted throughout the Air Force through appropriate application of systems-analysis and techniques.

2. Identify and document problems being experienced by OJT managers, trainers, and trainees in the field in accomplishing representative OJT programs.

3. Devise and demonstrate new methods or alternatives for measuring the effectiveness of OJT programs, and recommend ways to apply these methods to improve OJT throughout the Air Force.

Project Phases

The decision was made to conduct the work in two phases. The first phase would be concerned with problem definition, the second phase with the evaluation of several innovative approaches.

Specific objectives of Phase I were:

1. Review of civilian and military technical literature on OJT as well as all current Air Force regulations, manuals, and other documents governing or describing the OJT system.

2. Conduct of a systems analysis of the Air Force OJT program to describe what the system is supposed to be, what its programmed functions are, how it is supposed to operate under current directives, and how it relates to other systems and personnel programs.

3. Determine, through interviews and questionnaire responses, what problems are being experienced in the field in conducting representative OJT programs.

4. Determine and document the extent of correspondence and interaction between OJT and formal resident training programs.

5. Make recommendations on how to improve the present Air Force OJT system based upon the results of the overall systems analysis accomplished in items 1 through 4.

Specific objectives of Phase II were as follows:

1. Apply the information gained from Phase I to the development or adaptation of new methods and evaluation techniques to measure the effectiveness of Air Force OJT programs.

2. Make recommendations on how to best apply the new methods to improve OJT throughout the Air Force.

3. Prepare a "Program Evaluation Guide" describing ways to employ the Phase II techniques to evaluate OJT program effectiveness.

The present report describes the results of the systems analysis, problem identification, program evaluation, and recommendation efforts. The conduct of the Phase I literature review is reported separately (Stephenson & Burkett, 1974).

II. MILITARY OJT PROGRAMS

It is possible to trace on-the-job training of an informal nature back to the very first job assigned to a human being. Principles such as showing somebody how to do things, letting them practice, and telling them when they are right or wrong are not exactly new. Even formalized OJT programs are a time honored tradition, dating back to the first apprenticeship and the first guild (Steinmetz, 1967).

Recent history has, of course, had more effect on OJT programs. This was especially true during World Wars I and II. During both World Wars, the dramatic increases required in production of ships, guns, tanks, and other weapon systems required an equally dramatic increase in the number of production workers. Many experienced people were forced to work almost full time as trainers, in order to provide a new working force as fast as it was needed, and the government pitched in with some ideas on techniques and procedures. During World War I, this consisted of teaching supervisors to follow four basic steps: show–tell–do–check.

During World War II, more job instruction training (JIT) programs were developed as were a variety of three-day training programs for supervisors telling them how to conduct on-the-job training. The techniques, training aides, and procedural guide-lines were much more detailed. There was also more emphasis upon human relations skills and motivating the trainee to do a good job than during World War I.

The Characteristics of Military OJT Programs

These developments in civilian OJT programs had a dramatic effect on military OJT programs; but there are many differences between military and civilian OJT programs.

1. Military OJT programs (especially during wartime) involve many more people than civilian OJT programs.

2. The requirements for men who can quickly replace each other in the event of casualties demand an unusual emphasis upon standardization of training.

3. Rapid turnover among experienced trainers requires detailed documentation of training procedure.

Another important difference between civilian and military training is the sophisticated planning that becomes economically feasible when there are extremely large groups of trainees. A two man-year research project that would help establish performance standards for personnel in a particular specialty, for example, is impractical, if there are fewer than 100 persons in that specialty. If there are 10,000 people being trained in the same specialty every year, a very slight improvement in performance after training, or a very slight decrease in the duration of the course can justify much sophisticated information-gathering as regards the best way to design the course of instruction. This information-gathering has had a dramatic effect on military OJT programs, but these programs vary a great deal from one branch of the service to another.

Military Services Training Programs

All military services in the United States distinguish between three training priorities for formal schools training:

Category A Highly technical skills that must be taught in school

Category B Technical skills that can be taught either in school or by OJT

Category C Semitechnical skills that are taught only by OJT.

School quotas tend to be the dominant factor in decisions as to whether personnel in Category B specialties will be trained by OJT or in school. When there are more Category B trainees that the schools can handle, the surplus is usually sent out to learn by OJT. It is important to note, however, that we are not talking about all military specialties in the sections that follow.

ARMY

The Army has two kinds of training – individual and unit. OJT for individuals is considered less desirable than resident schools training, as illustrated by the way in which OJT is defined: "OJT is a formal program by which a soldier receives training in a unit, which leads to the award of a military occupational specialty (MOS). This method is used when Army Schools are unable to accommodate available input of students for formal training (TRADOC Reg 350-1). This statement tells us a great deal about the Army's attitude toward OJT. OJT is generally considered to be a less desirable alternative that one is forced to accept when the schools and training centers cannot handle the student workload. This position, as we shall see, makes a marked contrast with the position adopted by the Navy and the Air Force, which are much more favorably disposed toward OJT.

As described in the Army training regulation (AR 350-1), there are three classes of OJT in the Army.

1. *MOS-Producing*. This qualifies personnel in an MOS, when no formal course exists, or when attendance at a formal course is not feasible.

2. *Augmentation*. This provides additional training not obtained during MOS qualification to qualify an individual in those aspects of the job not included in the MOS-producing process, or introduce new equipment, modification, procedures, or other changes pertinent to the MOS.

3. *Cross-Training*. This partially qualifies personnel having an MOS in skills pertaining to another MOS, or trains personnel to perform different tasks within a given MOS structure.

Comparison of Army OJT and NET

The Army makes a distinction between OJT as defined previously, and new equipment training, or NET. NET is designed " to provide key individuals, already MOS qualified, that instruction and/or orientation necessary to increase their skills, knowledge, and techniques to the degree required for operation, maintenance, and integration of new or modified equipment/systems" (AR 350-1).

NET often involves field-training units that travel from one location to another, providing the training needed to operate new equipment. Sometimes, the key people are sent to an Army Material Command location where they are given a course in how to use and maintain new equipment.

Army Subject Schedules

Training in the Army is a command responsibility that is highly decentralized. Commanders of small units (battalion, separate company, and smaller) are allowed maximum feasible time and flexibility to attain training objectives, and the authority and responsibility for planning, directing, conducting, and supervising training is delegated to the lowest command element having the ability to conduct effective training.

Army subject schedules for individuals (as well as units) suggest how many hours of instruction or how many assigned hours of practice should ideally be spent in each subject matter category. However, AR 350-1 specifically states that, "Commanders at all levels will base their evaluation of unit and individual training proficiency on personal observation, sampling techniques, the periodic administration of performance tests and field exercises, and not on the number of hours of instruction to which a unit or individual has been exposed."

Correspondence Courses

The Army augments its OJT program with correspondence courses, but does not emphasize them as much as the Air Force and Navy. The organization of Army correspondence courses (AR 351-20) is given here.

> "1. *Career Development Program.* This consists of a series of career development courses which cover the knowledge required in an area of study, through the various levels of advancement, for both officer and enlisted personnel. This is a vertical outline of material to be covered in a particular MOS for enlisted personnel and branch for officers.
>
> "2. *Career Development Courses.* These consist of series of subcourses which cover the knowledge required in an area of study at a particular level of advancement, in fields for both officer and enlisted personnel. This is a horizontal outline of material to be covered in a specific MOS and grade.
>
> "3. *Functional Correspondence Courses.* These consist of a series of subcourses which cover the knowledge required in a particular job assignment for both officer and enlisted personnel. These courses are not a part of the career development program for individual advancement but are offered as an additional curriculum for specific areas of assignments" (AR 351-20).

The Army correspondence course program is not so elaborate or detailed or self-sufficient as those courses in the other services. The ultimate guidance for all OJT – whether correspondence courses are used or not – is the *Army subject schedule*, which, in turn, is based upon the description of the MOS in the Army enlisted classification manual (AR 611-201). If an Army subject schedule does not exist (and there are many specialties for which it does not), the commander is instructed to make use of other appropriate training literature (the program of instruction for the school course, closely related Army subject schedules, draft manuals, instructor notes, Army training programs, Training Directives, etc.). However, the MOS manual is the ultimate guidance, no matter how the program is designed.

Army OJT Objectives

Although no specific directives are given, the usual objective of OJT in the Army is to provide training in all areas of a specialty. The training regulation of the Army Training and Doctrine Command (TRADOC), specifically states that, " soldiers should be rotated in all duties of the MOS until all aspects of the job have been learned." (TRADOC Reg 350-1).

Evaluation decisions to determine whether a man has completed his OJT are also delegated to local commanders. The training regulation further suggests, "To evaluate training progress so as to detect and

correct deficiencies, periodic spot checks and written and performance tests will be used, with the performance test predominant. Test construction is the responsibility of the training activity commander." (TRADOC Reg 350-1)

The recommended examination procedures that the commander is expected to use are described in an Army Field Manual (AFM 21-6). This is a standardized description of recommended evaluation procedures for written tests, performance tests, and observation techniques that is not likely to surprise anyone with experience in the field.

If one confines his attention to MOS-qualifying OJT alone, the Army program is, by comparison with the Navy and Air Force, not very extensive. Fortunately, the MOS-qualifying type of OJT is only part of the overall picture. OJT is also performed as part of field maneuvers and Army training tests. During these maneuvers, each individual performs as part of a team, so he not only gets experience in his own specialty, but he also gets experience as regards his specialty and how his work is supposed to interface with the work performed by other personnel in his unit during certain practice maneuvers. This leads us to the area of unit training, which is defined as "that training conducted by a unit which welds together the individual skills of its members, and prepares a unit capable of performing its TOE (Table of Organization and Equipment) mission." (AR 350-1).

Army Unit Training

This type of training is of two types.

1. *Formal Unit Training.* "Formal unit training is that training designed to prepare a unit to perform its mission as stated in applicable organizational authorization documents. Formal training is intended for newly activated, reorganized, or mobilized units. This training is outlined in published Army Training Programs (ATP) for certain Army units. It is not intended that this be administered periodically to units already engaged in operational readiness training. Commanders may, however, prescribe the recycling of formal unit training at any time, when, in their opinion, circumstances warrant such action. Various levels of formal unit training are culminated by the administration of the Army training test as soon after completion of the levels as possible" (AR 350-1).

Formal unit training is conducted at two successive levels: basic unit training (BUT), and advanced unit training (AUT). The basic training involves small squads, crews, sections, detachments, platoons, or companies. The advanced unit training integrates subordinate units and typically involves a whole batallion or brigade in one field exercise.

The suggested guidelines for evaluating a formal ATP are contained in Army Training Tests (ATT). These are very detailed unit test plans, with scenarios for activities of the unit that last for several days (e.g., defense, attack, retrograde movement, etc.). Several well trained umpires accompany each small unit, observe the performance of the personnel, and periodically pose new (unexpected) problems to be solved (e.g., "If you had to place three machine guns on that hill, Sergeant, where would you put them?").

2. *Operational Readiness Training (ORT).* Although it is only the newly established units that go through this formal program, all units are periodically subjected to Operational Readiness Training (ORT) and Operational Readiness Training Test (ORTT). ORT includes training in both mission and support activities. The typical ORTT involves a field exercise of some kind. The field exercise will have been deliberately designed to correct any deficiencies that the commander thinks his unit may have. These field exercises are typically conducted in the field under simulated combat conditions, in which personnel and equipment of one force are actually present, while those in the opposing force may be real or imaginary.

Army Enlisted Evaluation System

In addition to unit training, the description of the Army OJT program would still not be complete without some reference to another program (not considered to be part of the OJT program in the Army) that provides the Army with control over the qualification of the personnel that a commander says are MOS-qualified. This is the Army's enlisted evaluation system.

The enlisted evaluation system consists of two major components: (a) evaluation of the enlisted man's knowledge of the various duties that are required at his skill level in his MOS, as indicated by MOS evaluation tests and performance tests; and (b) evaluation of performance in the currently assigned duty position, as indicated by supervisory ratings on the enlisted evaluation report (EER) (Figure 1). A rating

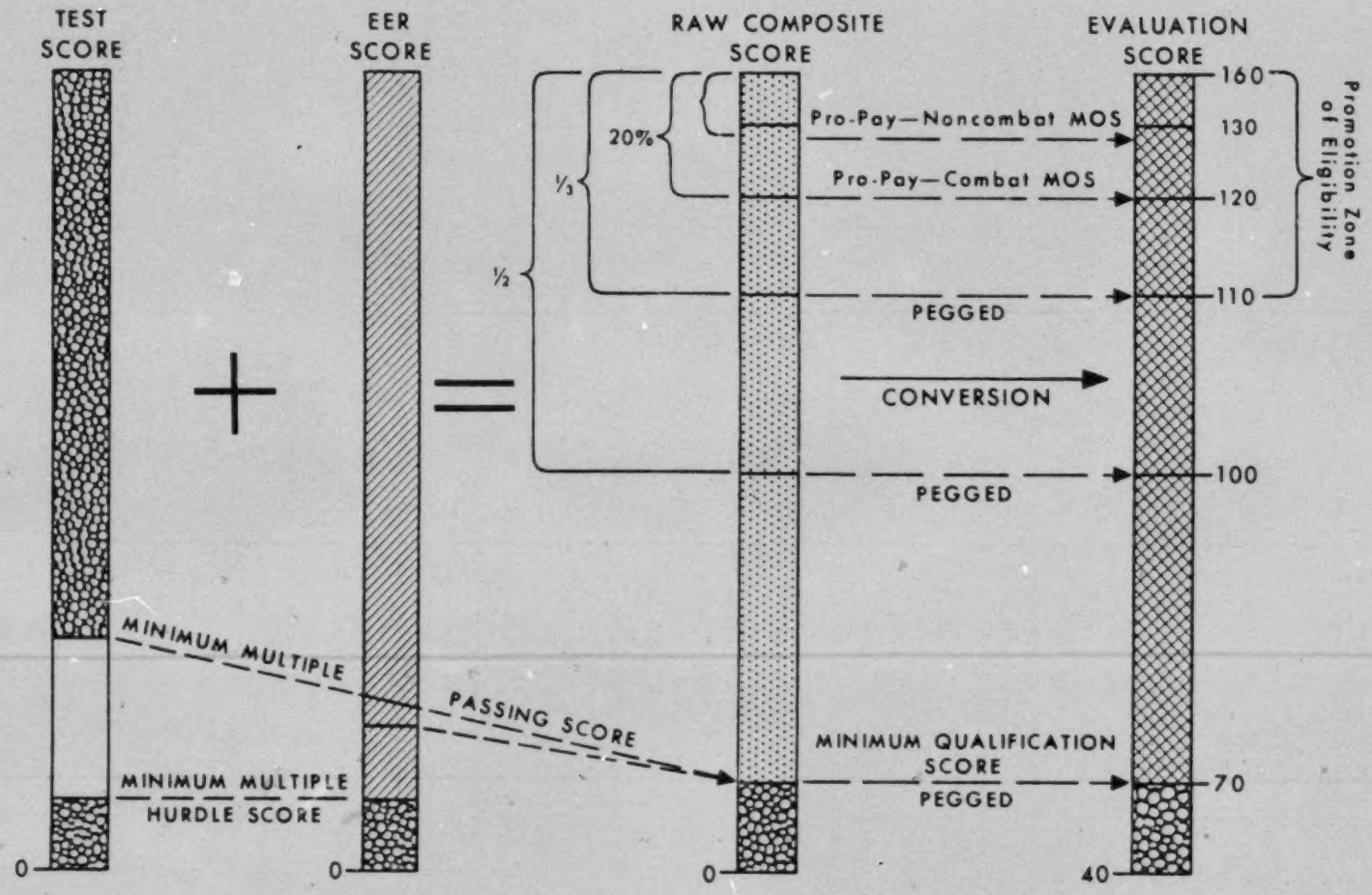


Figure 1. **Army MOS evaluation score.**[a]

[a]From *U.S. Army Enlisted Evaluation Center*, Briefing Supplement: Indiana, USAEEC, 1971.

system is applied to the scores obtained on these instruments, and it is used to compute a composite score for taking individual personnel actions. This MOS evaluation score indicates the individual's relative standing among those evaluated in the same MOS and skill level and in the same pay grade. It is used to verify MOS qualification, to assist in determining promotion eligibility, to award proficiency pay, to guide remedial training, and in a variety of other personnel actions.

The characteristics of the MOS proficiency testing program will not be detailed herein, but one particular aspect of the MOS proficiency test program directly relevant to OJT will be considered – the MOS "major area" scores. Each MOS evaluation test is organized into six to ten major areas; that is, six to ten subscores. The six major areas for an Infantry senior sergeant, for example, are weapons, tactics, field activities, unit defense, administration, and personnel accounting. Study references from Army regulations, pamphlets, field and technical manuals, and other manuals are coded to each of the major areas in an accompanying test aid so that each soldier can locate the printed materials upon which the test is based. He may study these reference materials to improve his knowledge and performance.

The major areas are weighted according to the relative importance of the functions in the missions of all units that are authorized duty positions in the MOS skill level, and not on the basis of the time required to teach the subject matter in formal classroom courses, and not on the basis of the number of personnel assigned or authorized for specific duty positions. The number of questions allocated to an area out of the total number of items in an MOS proficiency test indicate the weight assigned to that area. Subscores for these major areas are useful not only to the soldiers tested, who can use the information to improve their performance, but also to various headquarters, to centralized management programs, and to commanders for managing assignments and training programs.

There are two important things to note about this proficiency testing program:

1. The proficiency testing area scores are also an implicit part of the OJT program, since they provide feedback to personnel regarding their strong and weak points.

2. The proficiency testing program provides the Army with an effective quality control program to determine whether a commander was correct in saying that someone was qualified to perform a particular MOS at a particular skill level.

MARINE CORPS

The Marine Corps OJT program is similar to the Army program (although much smaller), but the management is much more centralized, and the proficiency testing program is different. Only certain commands are authorized to conduct MOS qualifying OJT for certain specialties under the Marine Corps' "Managed OJT" program (MOJT) (MCO P1500.32), and training must be completed within a specified period of time. Other kinds of OJT, in addition to MOJT, are permitted, but most of them do not result in award of an MOS. Correspondence courses from both Army and Navy sources are an important part of this program.

One significant difference between the Army and Marine Corps programs is the kind of guidance given to commanders. The Army provides Army subject schedules that suggest a certain number of (so many) hours on each block of instruction, but imposes no definite time requirements. The Marine Corps provides specific performance objectives (primarily for combat skills) and limits the time available to reach those objectives. Examples for the Field Artillery Batteryman MOS (0811) are cited (MCO P1500.32).

"Upon completion of field skill training, a FIELD ARTILLERY BATTERYMAN (0811) must be able to accomplish the following:

1. Identify Marine artillery weapons from photographs and describe each weapon by type, caliber, and primary/alternate means of mobility.

2. Without reference to written material identify all elements of a fire command and describe the duties of each numbered cannoneer in responding to a fire-command. . .

3. Explain safety precautions and recognize unsafe conditions pertaining to ammunition, and firing of the weapon as set forth in the appropriate FM."

In spite of the lack of a large professional staff, the Marine Corps' program (small as it may be) seems to be ahead of the other services in meeting the current Department of Defense goal of translating specialty

requirements into performance objectives. This is not unexpected, since the total number of specialties is not as large as a fraction of what it is in the other services.

NAVY

The Navy certainly has the most utilized training and educational programs in the Department of Defense. As much as 90% of all Naval personnel are involved in some sort of self-study course every year. OJT is equally popular and universally found. In the sea service, on-the-job training approaches 100% participation, since – aboard ships at sea – there is some aspect of training going on 24 hours a day. Navy ships spend more than half their time in training functions, and Naval personnel – enlisted and officer – are "in training" throughout their Navy careers (Nav-Pers-0, Number 611).

Training Manuals

Navy training manuals are an important part of the overall system. These books provide enlisted men with the knowledge that they need to work in their pay grade. They are a must for any man who wants to advance in his rating. There are about 115 blue books (for nonaviation ratings), and 52 green books for aviation ratings. There are also about 35 special training manuals and supplements that cover general subjects of interest to Navy personnel. These books are focused upon specific "ratings," which are roughly equivalent to the occupational specialties in the other services. (Actually, the rating is much broader than an Army MOS or Air Force Specialty.) There are, in addition, a large number of Navy correspondence courses covering a variety of technical and professional subjects. There are currently about 180 correspondence courses for enlisted personnel.

The Navy *Glossary of Navy Training Terminology* (OPNAV 37&56P2A) defines OJT as "Training in the performance of a task or duty while engaged in its performance during daily operational and maintenance situations" (p. 44). This restriction in usage was done deliberately on the grounds that OJT seemed to have picked up too many meanings. Other terms that are perhaps more equivalent to the way the term is used in the other services are given here.

In service training, which is training that takes place within the parent command on an organized and scheduled basis for immediate application in accomplishing a task or group of tasks coincident with performing the duties of an assigned billet.

On-site training, which is training performed at the user's site (installation) rather than in a school. Self-study courses are considered to be part of "In-service education" rather than "In-service training."

The primary reason for restricting the term "OJT" to training during daily operational and maintenance situations was to avoid confusion with self-study during the man's own personal time. Other distinctions include:

On-duty vs. off-duty
Full time vs. part time
On-station vs. off-station
In-service vs. out-of-service
formal vs. informal
Staff-supported vs. outside instructors
Supervised or instructor-led vs. self-study

Training publications useful in getting advancement in rate are listed in *the Bibliography for Advancement* (NAVEDTRA 10052V). Some of these rate training manuals are mandatory, others are optional. A mandatory training course may be passed by any one of the following procedures: (a) passing the appropriate enlisted correspondence course based upon the mandatory training course, (b) passing locally prepared tests based upon the information given in the mandatory training course, or (c) in some instances, successfully completing an appropriate Navy school. The flexibility reflects the fact that ships may be at sea for a long time without access to training supplies and materials.

Additional training manuals dealing with general military knowledge are required at certain rate levels. An illustration of how the pieces must all fit together in order to advance in grade is shown on Figure 2.

REQUIREMENTS *	E1 to E2	E2 to E3	#† E3 to E4	#E4 to E5	† E5 to E6	† E6 to E7	† E7 to E8	† E8 to E9
SERVICE	4 mos. service—or completion of	8 mos. as E-2.	6 mos. as E-3	12 mos. as E-4	24 mos. as E-5.	36 mos. as E-6. 8 years total enlisted service.	36 mos. as E-7. 8 of 11 years total service must be enlisted.	24 mos. as E-8. 10 of 13 years total service must be enlisted.
SCHOOL	Recruit Training. (C.O. may advance up to 10% of graduating class.)		Class A for PR3, DT3, PT3, AME 3, HM 3, PN 3, FTB 3, MT 3.			Class B for AGC MUC, MNC. ††		
PRACTICAL FACTORS	Locally prepared check-offs.	Record of Practical Factors, NavPers 1414/1, must be completed for E-3 and all PO advancements.						
PERFORMANCE TEST			Specified ratings must complete applicable performance tests before taking examinations.					
ENLISTED PERFORMANCE EVALUATION	As used by CO when approving advancement.	Counts toward performance factor credit in advancement multiple.						
EXAMINATIONS **	Locally prepared tests.	See below.	Navy-wide examinations required for all PO advancements.			Navy-wide, selection board.		
RATE TRAINING MANUAL (INCLUDING MILITARY REQUIREMENTS)		Required for E-3 and all PO advancements unless waived because of school completion, but need not be repeated if identical course has already been completed. See NavPers 10052 (current edition).				Correspondence courses and recommended reading. See NavPers 10052 (current edition).		
AUTHORIZATION	Commanding Officer	Naval Examining Center						

* All advancements require commanding officer's recommendation.
† 1 year obligated service required for E-5, and E-6: 2 years for E-7, E-8, and E-9.
# Military leadership exam required for E-4 and E-5. †† Waived for qualified EOD personnel.
** For E-2 to E-3, NAVEXAMCEN exams or locally prepared tests may be used.

Figure 2. **Navy-Active Duty Advancement Requirements.**

In addition to training associated with one's rating and grade level, the Navy also provides training of a specialized nature with specific items of equipment. Specialized skills of this type (usually equipment-related) are identified with Navy Enlisted Classification codes (NEC) (NAVPERS 93510-1). NECs are normally picked up by attending a formal school, but many of them can be picked up by a mixture of correspondence and OJT.

Navy Unit Training

The Navy also has various kinds of unit training. "Team training," for example, refers to training at sea or on shore in which an entire group of the ship's company, or a team, or a group that functions as a team, participate in order to improve their capability in their functions (e.g., an antisubmarine warfare team, or the Naval gunfire support team).

Advancement in Rating for Navy Personnel

There are typically five requirements before any enlisted man can qualify for advancement in his rating. He must

1. Have a certain amount of time in grade.
2. Complete the required military and occupational training courses.
3. Demonstrate the ability to perform all the practical requirements for advancement by completing the Record of Practical Factors.
4. Be recommended by his commanding officer.
5. Demonstrate his knowledge by passing a written examination upon (a) the military requirements for advancement, and (b) the occupational qualifications for advancement in his rating.

A weighted score based upon these factors plus other considerations (medals and awards) is used to compute a single numerical score for promotion purposes.

Qualification Requirements

Important to the whole procedure is the *Qualification Manual* (NavPers 18068c) that lists the qualification requirements for advancement to each pay grade. The practical factors listed in the "*Quals Manual*" for a given rating and grade (both military and occupational) are copied on the record of practical factors (NavPers 1414/1). The form is then used to record the satisfactory completion of each factor required for that rating and grade. The record of practical factors is the Navy version of a proficiency training record. It is kept in each man's service record and is forwarded with the service record when the man changes duty stations.

AIR FORCE

The Air Force, like the Army, provides for advancement in skill level (upgrading) as a separate and distinct personnel action that is independent of advancement in grade (promotion). However, skill level is much more important in the Air Force than it is in the Army, because the supervisor must certify job proficiency on tasks required for the airman's current assignment, and because a completely separate multiple choice examination (in addition to those required for promotion) must be passed before one can get upgraded in skill level. The current skill progression plan is shown in Figure 3. The "dual channel" concept of Air Force OJT is illustrated by the fact that there are knowledge-oriented, or career development course (CDC) requirements (left hand side of Figure 3), as well as a performance-oriented, or job proficiency guide (JPG) requirements (right hand side of Figure 3). There is also a requirement for a minimum amount of experience before skill upgrading, regardless of one's demonstrated knowledge and proficiency.

Air Force OJT Management and Administration

The Air Force is unique among the services in having a very detailed OJT Manual (AFM 50-23) that indicates which personnel should be responsible for which parts of the program. The Air Force is also

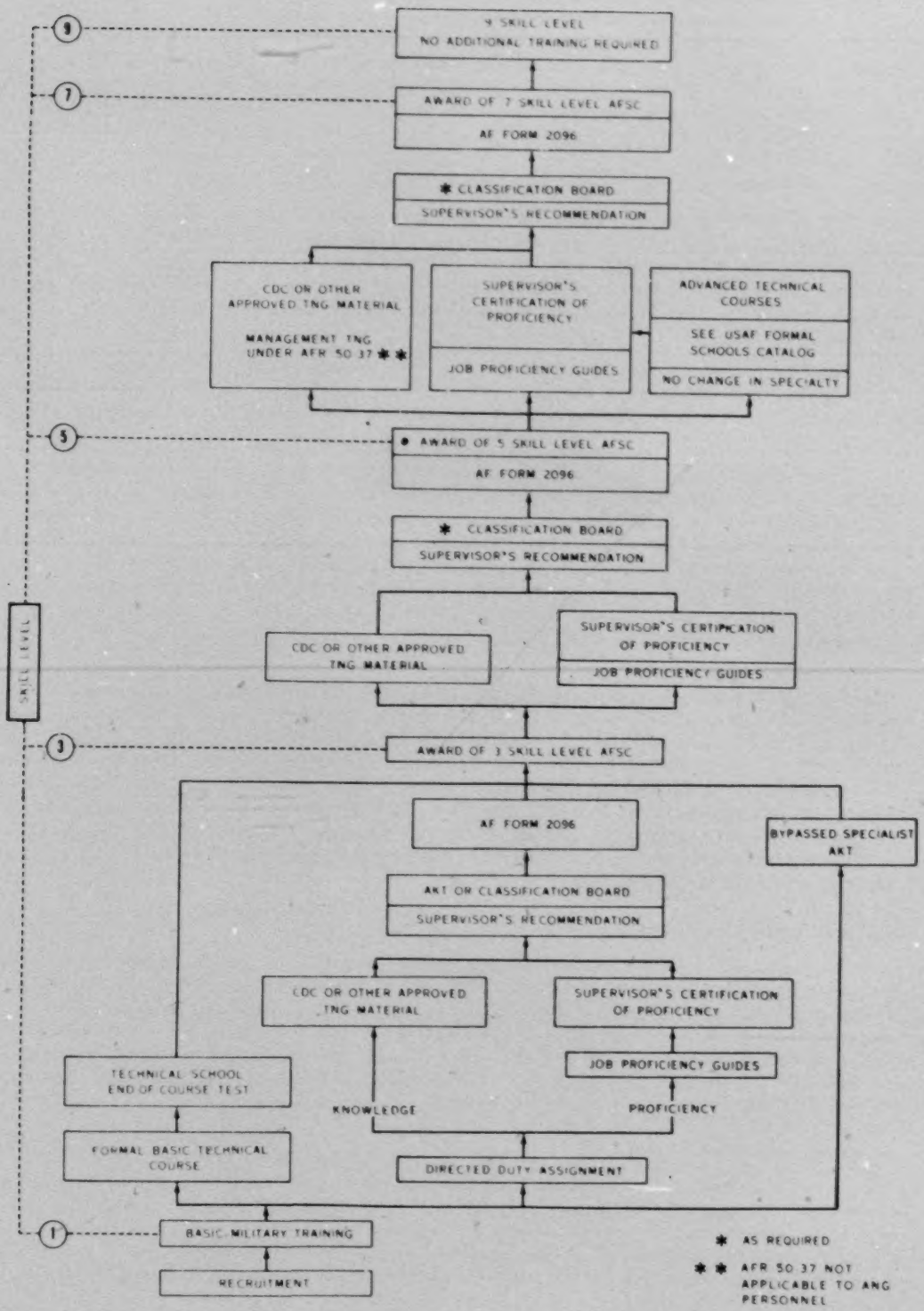


Figure 3. **Air Force skill progression.**

unique in that most of the management and administration of the OJT program is part of an occupational specialty rather than just an additional assignment for noncommissioned officers. Noncommissioned officers who have already been upgraded to a certain skill level in one of the regular specialties may request special training into the "Education and Training" specialist or "75" career field. The Air Force skill upgrading program has traditionally been an enlisted man's program, and these "75" noncommissioned officers largely manage the program at the unit, base consolidated base personnel office (CBPO), and major command (MAJCOM) headquarters levels.

Air Force OJT Advisory Service Training Programs

The Air Force has also established a world-wide network of OJT advisors who help train supervisory personnel as regards their responsibilities and who act as consultants regarding OJT problems. Hundreds of thousands of supervisors, training managers, and OJT administrators have participated in these training programs. The number of consulting contacts is equally impressive, and the use of OJT advisors (consisting of approximately 75 NCOs world-wide) seems to be an extremely successful aspect of the overal Air Force OJT program.

The Air Force OJT manual distinguishes between OJT, upgrade training (UGT), qualification training, retraining, and lateral training. In sharp contrast with Navy usage, Air Force OJT is a general term that describes any and all training received by an airman while he is performing in a duty assignment of his Air Force specialty (AFS).

"Training for the purpose of upgrading in his AFSC in skill level is referred to as *upgrade training* (UGT). Training administered for the purpose of increasing knowledge and skill in an awarded AFSC, but not resulting in award of an AFSC, is referred to as *qualification training*" (AFM 50-23). *Retraining*, which is designed to qualify an airman for award of an AFS or AFS shredout not in the normal progression pattern of his currently awarded AFS, is also possible. *Lateral training*, which involves providing airmen in one AFS with training inputs from another AFS, is part of the normal career progression for certain AFSs.

Air Force Career Knowledge Training

Career knowledge training is provided through the CDCs. These are written by appropriate experts at proponent schools in the Air Training Command (ATC) and edited, published, and distributed by The Air University's Extension Course Institute (ECI). ECI had new enrollments totaling 326,000 in 1972, an average of 27,000 each month. The institute offers over 360 courses to students (officers as well as enlisted men) scattered all over the world. CDCs are offered in almost all Air Force specialties that have a total manning authorization of over 100. Volume review and chapter review exercises accompany each CDC volume, and the answer sheets are sent directly to ECI for scoring. These are normally open-book examinations. Course examinations (CEs) are multiple-choice, closed-book examinations that are taken for course completion in the present of a testing official at the trainee's home station. This examination covers the entire course and is scored by ECI.

Air Force Job Proficiency Training

Job proficiency training is a supervisory responsibility, but there are specific Air Force wide standards for performance in each specialty at each skill level. At the beginning of a man's proficiency training, the supervisor selects certain tasks from the specialty training standard (STS) and prepares a JPG for that specialty. The supervisor need not select all tasks, and may, if he prefers, choose only one or two for which he has the necessary equipment. He may also define additional tasks by attaching a supplemental sheet to the STS/JPG. The supervisor is expected to determine and certify the man's proficiency in each of these selected tasks before the man is upgraded in skill level.

Occupational Knowledge Evaluations

There is a variety of programs for evaluating occupational knowledge and performance in the Air Force. The dual-channel OJT system provides two checks: the end-of-course examination and job proficiency certification. As a completely separate program, Air Force personnel are also required to pass specialty knowledge tests, or SKTs (these are general specialty knowledge tests) as part of the Air Force Weighted Airman Promotion System (WAPS). An additional performance evaluation program of

considerable complexity (involving many forms and task evaluations) exists for maintenance specialties. The Air Force has a skill certification program for personnel in maintenance specialties (AFM 66-1). Over-the-shoulder and performance sample evaluation techniques are conducted on an intermittent or regularly scheduled basis in every maintenance, munitions, or other high hazard organization in the Air Force.

The Air Force, like the Army uses operational crew training and a variety of readiness exercises that provide additonal OJT and that help airmen to understand how their activities interface with the activities of other personnel in the unit, but these crew training exercises are primarily the responsibility of individual commands and are normally governed by command directives rather than Air Force-wide directives. These operational readiness inspections (ORIs) are usually unannounced exercises involving the coordinated accomplishment of a practice mission by an entire unit.

Significant Differences Among the Services

Army and Marine Corps OJT programs differ from Navy and Air Force in the sense that OJT is more concerned with tactical operations and less concerned with subject matter knowledge – a difference that reflects the expected role of personnel in the various services in dealing with complicated equipment. There also seems to be a distinct preference for formal schools where subject-matter training is concerned, that is, Army and Marine Corps usually consider OJT a second-best option for training, even for people in category B skills.

The reason for the different attitude towards OJT in the Army is understandable. The Army had a two-year draft for many years. Jobs could not be permitted to get very complicated under such circumstances. Moreover, a two-year draft period has many implications as regards cost effectiveness and unit readiness. For example, a three-month period in school (after basic training, etc.) only leaves 1 1/2 years of productive time. If the trainee were required to spend an additional six months in OJT, that would leave only one year of fully productive time out of a two-year period. This could also mean that 50% of all draftees would be in a trainee status – an intolerable situation when there are a large number of draftees. Most units would not have the capability to perform their functions under such circumstances.

In contrast with the Army, the Air Force and the Navy usually operate with longer enlistment periods. Consequently, the payoff for a longer period of training is great enough to justify a sizable investment. Moreover, the percentage of personnel in a trainee status is not seriously affected by a prolonged training period, as used to be the case in the Army. Now that the Army is working with longer enlistment periods (in the absence of a draft), its attitude toward OJT could possibly change.

The Army and Marine Corps focus is upon unit training, rather than individual training, and there is considerable staff support for unit training exercises. Where individual occupational training is concerned, however, the Army and Marine Corps offer relatively little support to commanders, and the programs seem weak by comparison with the Navy and Air Force. Fortunately, the proficiency testing programs provide the necessary feedback to trainees about strong and weak points, and the necessary quality control over the decisions of a commander. The Army appears to have the best developed and most generally useful knowledge-testing program, and the Marine Corps has the best combat performance programs.

The Marine Corps is a very proud branch of the service, thus it is not surprising to see how much they have emphasized performance objectives in their OJT programs. Another important reason for this accomplishment is that the performance standards for the Marine Corps (being different) are one of the few things that the Marine Corps really provides for itself. Most of the other kinds of technical training support (correspondence courses, subject schedules, etc.) have already been supplied by the Army or Navy.

The Air Force and the Navy OJT programs are quite similar (Table 1). They are both heavily dependent upon correspondence courses for job knowledge training; and they both emphasize an individualized record of proficiency training on the job. The Air Force seems to have more administrative record keeping because of the need to keep track of skill-level advancement as a separate progression pattern. In the Navy, one's general skill level is associated with rank. Specific skills are either indicated on the record of practical factors, or incorporated into official records by identifying the particular Navy Enlisted Classification codes in which a man is qualified – but one either has an NEC or one does not. Levels of skill are not normally indicated beyond that indicated by rate or rank.

Table 1. **Estimated Percentage of Navy and Air Force Enlisted Men Trained on the job (by DOD Code)[a]**

DOD One-Digit Code	Percentage Trained on the Job	
	Air Force[b]	Navy[c]
0 Infantry, Gun Crews	44.2	82.5
1. Electronic Equipment Repairmen	6.7	21.8
2. Communications and Intelligence	7.8	23.0
3. Medical and Dental	15.0	1.1
4. Other Technical and Applied	32.6	45.4
5. Administrative and Clerks	31.0	68.8
6. Electrical/Mechanical Equipment Repairman	4.3	44.2
7. Craftsmen	19.0	51.1
8. Service and Supply Handlers	32.4	67.1
Total (Average)[d]	21.4	45.0

[a]Source: *Studies Prepared for the President's Commission on an All-Volunteer Armed Force*, Volume I, U.S. Government Printing Office, Washington, D.C., November 1970.

[b]Estimated from Program Elements 8 and 11, FY70 Air Force Budget. Estimates provided by Office of the Secretary of Defense (Systems Analysis).

[c]Estimated from "E-4 Length of Service Study," published by U.S. Naval Training Center, Great Lakes, Illinois, 1968.

[d]Unweighted average of all percentages.

Another important difference between Navy and Air Force OJT (in addition to the Air Force stress upon skill levels) is the dual-channel system of the Air Force. The enlisted man seeking advancement in his rating has specified Navy "practical factors" that he must learn and in which he must demonstrate his proficiency. The Air Force permits a supervisor to select a number of appropriate factors that fit the needs of the organization in terms of the airman's current job and the needs of person being trained.

The Air Force, with its professional "75" training administrators, seems to have the best staffing situation. The Air Force also seems to have the best documented administration program for OJT. It is possible, however, that there is more administration than is really necessary. Would it be better, for example, to drop the distinction between skill levels (as a separate entity, it requires a separate testing program) and document specific skills as the Navy now does with its NECs? Is the Air Force STS category better than the "plain English" terminology found in the Navy record of practical factors? If the administrative red tape associated with advancements in skill level were dropped, would the quality of the Air Force OJT program decrease? Such comparisons of the Navy and Air Force OJT programs raise some interesting questions in terms of which approach best optimizes program administration requirements and management costs.

There are marked differences in the extent to which responsibility for OJT is decentralized in the various services. The Army delegates the most. Subordinate headquarters in the Army are specifically instructed *not* to evaluate programs in terms of the number of hours of instruction, and *not* to insist that training be completed within a specified period of time. The Navy has a similar attitude towards delegation of responsibility, but the Navy provides more specific guidelines and assistance to the trainer than does the Army. The Air Force provides unusual flexibility in the choice of tasks for training, and permits long periods of training even though "excessive" training is actively discouraged within specified minimum – maximum time limits. However, there are more administrative controls and documentation requirements in the Air Force than in any other service. The Marine Corps is the least decentralized as regards when, where, and how much is taught. Units must be authorized to train personnel in certain specialties, training is expected to be completed within a specified period of time, and those personnel who complete OJT are expected to meet specific performance objectives established by Headquarters.

III. AIR FORCE OJT POLICIES AND PROCEDURES

The Air Force OJT program puts more emphasis upon organization and documentation of OJT than any other branch of the service. This emphasis is a mixed blessing in many ways.

History of Air Force OJT

In order to understand Air Force OJT policies and procedures, it is necessary to put things into historical perspective. The Air Force separated from the Army in 1947. At the time, military OJT was largely based upon OJT as it was practiced in industry during World War II. The Air Force OJT program – as a formal program – became operational in 1953. The program was nonstandardized and command-oriented. There were some general policy guidelines from Headquarters, U.S. Air Force, consisting of a brief policy regulation and an OJT manual (AFM 50-23). The manual was a policy guideline only; that is, it was not directive in nature, and each command was authorized to do things somewhat differently. Some "OJT packages" were prepared by Air Training Command schools responsible for training personnel in various specialties, and some were prepared by individual operational commands. At the time, airmen were expected to be trained on the job in *all* aspects of their AFSC; that is, each airman was expected to learn everything that all personnel at his skill level in his specialty could practically be required to learn. This was similar to the pattern that then existed in the other services.

The postwar OJT programs ran into trouble. The Air Force is different from the other services, in that the jobs are much more specialized, and the equipment proliferation and technical obsolescence rates are usually rapid. Busy supervisors often discovered that they did not have the time or equipment to train an OJT trainee in *all* the tasks in his specialty without making serious sacrifices in the quality of training, unit productivity, or both. Moreover, many Air Force locations simply did not have all the job situations or equipment that was needed to provide such extensive training. There were many complaints from supervisors who were forced to train personnel in skills that they did not need in their current jobs at the expense of accomplishing other high priority work.

Inevitably, some "pencil whipping" occurred; that is, if the only way to get person upgraded or promoted was to say that they had been assigned to 10 different job areas during a 12-month period, some supervisors were willing to check the necessary columns in the training record, whether they had been so assigned or not. Complaints were made regarding the various regulations that were supposed to be followed, because supervisors could not actually train in accordance with all the regulations, and trainees often wondered why they were required to learn so many skills that never became a part of their actual job assignment.

Advisory Board Review

The Air Training Command was aware of these problems, and in 1961, a special high-level committee (consisting of nationally known consultants and several retired Air Force generals) reviewed staff studies describing Air Force OJT policies and programs and prepared a set of recommendations (ATC Advisory Board). The most important recommendation of this board was that the Air Force should change its policy of requiring proficiency in performing *all* tasks in each specialty. The board recommended that the requirement for general knowledge of all the subject matter areas in a specialty be continued. However, instead of similarly requiring *proficiency* in all tasks, it was recommended that proficient performance in a smaller number of currently assigned tasks (perhaps even only one important locally available task) be considered adequate for skill level upgrading.

Dual-Channel System

Thus, in 1964, the "dual-channel" OJT system was adopted by the Air Force. The policy was that CDCs would be written in such a manner that they could be relatively independent of equipment differences and focused upon knowledge fundamentals. The hands-on proficiency training (the other part of the dual-channel system) that was required prior to upgrading was restricted to specific tasks that needed to be performed in the present duty assignment only, rather than requiring proficiency in all tasks in the specialty.

The dual-channel system of OJT has been very popular in the Air Force, since it solved a number of problems—but there were still a number of difficulties associated with differences between commands. It really was not fair to an airman to train him completely in one command, and then ask him to repeat his training when transferred to another Command, because of different standards and procedures. Record-keeping procedures were also different, and it was difficult to determine whether the training in one command was really equivalent to that in another.

OJT Standardization

Gradually, over a period of several years, the Air Force OJT program was standardized. The first step, in 1969, was to impose the requirement that personnel complete their CDCs prior to skill upgrading as opposed to just passing a knowledge test for the next higher skill level. Another development, in 1970, was the establishment of Air Force-wide policies regarding the requirements for award of skill levels by specialty. The most recent development was the standardization of administration and recording practices. For example, in 1971, AFM 50-23 was made directive in nature, Air Force-wide, and it was required that any command supplements be approved by Headquarters, U.S. Air Force.

Promotion Criteria

There are two different aspects of career advancement in the Air Force, as previously noted. One is promotion to higher grades, the other is skill-level upgrading. It is possible to be promoted without being upgraded, or vice versa.

Promotions in the Air Force are determined by one's score in the WAPS. WAPS selects airmen for promotion based upon weighted scores of factors noted in Table 2. Under WAPS (CM 72-1), all eligible airmen compete worldwide with all other airmen in the same grade and AFSC. The number of vacancies in a specialty determines how many promotions are made. One's numerical score determines whether any given individual is included in the group of personnel selected for promotion.

Table 2. **WAPS Weighted Factor Scores**

Factor	Maximum Point
Specialty Knowledge Test (SKT) Score	100
Promotion Fitness Examination (PFE) Score	100
Time in Service	40
Time in Grade	60
Decorations	25
Performance Reports	135
	460

All airmen eligible for promotion to E5 through E7 are given an SKT annually. The SKT, like the CDC, deals with specific job knowledge of the airman's career field specialty. A separate promotion fitness examination (PFE) measures knowledge of general military subjects and management practices appropriate to a specific grade level.

Significant eligibility requirements for promotion at various grades are listed in Table 3. Since around 90% of airmen obtain the 3-skill level in technical school, no additional studying is needed for most airmen to be promoted to E4. This is also true of E6s who want to be promoted to E7, since the 7-skill level will already have been obtained by all E6s. For most airmen, upgrading in skill level is only important for promotions to E4, E5, and E6. Promotions to higher grades (E8 and E9) are normally determined by supervisory skills and experience rather than by technical knowledge, although a supervisory examination must be passed in order to be eligible.

There are, of course, exceptions to this pattern. For example, some airmen in certain highly skilled specialties such as those associated with missile work must complete requirements for 9-skill levels that are technical rather than administrative in nature.

Table 3. **Promotion Eligibility Requirements**

To Grade	Skill Level Required	Time in Grade Required	Number of Stripes
E4	5-level	8 months in E3	3
E5	5-level	12 months in E4	4
E6	7-level	18 months in E5	5
E7	7-level	24 months in E6	6

Skill Upgrading Criteria

Upgrading requires that three things happen: A minimum amount of time must elapse; a trainee must pass the end-of-course examination for his CDC; and the supervisor must certify completion of his task-level proficiency training on the individual's JPG. For normal upgrade training, a minimum of six months is required before an airman can be awarded the 5-skill level, and a minimum of one year of time in training must elapse before an airman can be awarded the 7-skill level. There are also maximum allowable time periods. For normal upgrading to the 3-level (i.e., upgrading a directed duty assignment), the maximum allowable time is 12 months; for normal upgrading to the 5-skill level, the maximum is 18 months; and for normal upgrading to the 7-skill level, the maximum allowable time is 24 months. Supervisors are required to take action (counseling, assistance, warnings) long before these maximum requirements are reached, and the average upgrade times are normally much closer to the minimums than they are to the maximums.

Career Development Courses (CDC)

All Air Force organizations must use CDCs in their OJT programs, if the CDCs are available for a particular specialty. There are approximately 300 CDCs available. This is less than the number of AFSCs; but, it must be remembered that a CDC is not written unless the manning tables authorize at least 100 airmen in the specialty. Also, some specialties (including most Category C specialties) may not have any CDCs at all. At the time of this analysis, most of the CDCs were written for the 5-skill level, as indicated in Table 4.

Table 4. **CDCs by Skill Levels**

Skill Level	No. of CDCs
3	33
5	189[a]
7	72[a]
9	1

[a]Seven additional CDCs have been prepared for the 5- and 7-skill levels combined.

CDCs are made available to airmen who are studying for promotion testing purposes (the SKT required by the WAPS program), as well as to those actually enrolled for upgrading purposes.

The CDC, is written at a proponent technical school, reviewed at ATC, and edited and published by the Extension Course Institute of the Air University. Over a period of several years, the ECI has devised a number of review exercises and procedures that are part of a CDC package. Key items are detailed here (Extension Course Institute).

"*Chapter Review Exercises (CREs).* These are open book exercises placed at the end of each chapter and require essay, rather than multiple-choice answers. Correct answers are provided to give immediate learning reinforcement and feedback. The CRE is a study tool designed solely to aid the student.

"*Volume Review Exercises (VREs).* Volume review exercises are open-book, multiple choice exercises, covering an entire volume, which must be completed by the student before he continues his studies. Unlike the CRE, the student submits his VRE solutions to ECI for computer grading. He is then furnished his percentage score and a listing of the questions missed.

"*Course Examinations (CEs).* The student takes this multiple choice, closed-book examination in the presence of a testing official at his home station. This examination covers the entire course, and is scored at ECI. The student is notified of the results of this examination by use of a feedback postcard on which is printed his grade, either satisfactory or unsatisfactory, and the topic areas (by guide number) the student should study. The result of this examination is a major factor in determining the student's eligibility for upgrading in his AFSC if the reason for enrollment was participation in the Air Force OJT program.

"*Study Reference Guide (SRG).* This is a topical outline of each volume of a course. Each topic is coded with a guide number. This unique innovation provides a feedback for learning reinforcement by cross-referencing the questions missed on the volume review exercise (VRE) with the SRG related to each question, and the SRGs listed on the CE feedback postcard indicating areas requiring further study.

"*Workbook.* If a workbook accompanies a text, it contains the Study Reference Guide, Chapter Review Exercises and answers, and the Volume Review Exercise" (ECI, June 1973).

Job Proficiency Training

Job Proficiency training is basically a supervisory responsibility. The general guidelines are in the classification manual for enlisted specialties (AFM 39-1). This manual defines what personnel in a certain specialty are expected to do, and OJT programs are designed accordingly. The next step is to translate the stated requirements in the Air Force classification manual into abbreviated task breakdown form, and assign performance level expectations to the various skill levels. This results in a specialty training standard (STS), also prepared by the proponent technical school and published by ATC.

The Air Force indicates the expected performance standards on the STS in a three-digit alphanumeric code. One of the digits (an Arabic number) indicates the expected performance/knowledge standards: another digit (a lowercase letter) indicates the expected task-knowledge level; the third digit (a capital letter) indicates the expected subject matter knowledge. The order of digits indicates which type of performance standard is most important. Only relevant alphanumeric codes are used, so the actual performance standard may be stated with one, two, or three digits. The proficiency code key is shown in Figure 4. A sample page from a specialty training standard (STS) is shown in Figure 5.

The STS lists all the tasks expected of an airman in a particular specialty. The process of modifying an STS (either by circling specific tasks and performance standards or by actually printing a slightly different version of it) converts the STS into a job proficiency guide (JPG) which is the actual task breakdown used for OJT proficiency training. The supervisor may, for example, select five tasks out of twenty as appropriately covering the trainee's current job assignment. The trainee is then entered into OJT for those five tasks. He must perform at the level indicated on the JPG for airmen at the skill level to which he wishes to progress before he can be upgraded to that skill level.

Standardized Administrative and Record-Keeping Procedures

OJT records are kept in a folder that is itself a formally approved Air Force form: AF Form 623, the "On-The-Job Training Record." The form is used, in part, as a communication device between the supervisor and his trainee, since the plans for future training are recorded inside the Form 623 on the JPG, or Job Proficiency Guide for that airman in that particuiar location, along with certification of completed tasks as training progresses. The supervisor simply circles those tasks that are selected for training for the particular individual and the required performance or proficiency levels.

The records inside the Form 623 thus serve as a skills inventory, since records are kept on the JPG regarding the specific tasks that a trainee is qualified to perform. The procedure by which a trainee is certified as qualified is significant. The trainee as well as the supervisor must initial each task the trainee is qualified to perform. The supervisor, in so doing, certifies that he has evaluated the trainee's performance in one way or another, and has decided that the trainee is really qualified to perform that task without additional supervision above and beyond that expected of an experienced person at the designated skill level. The trainee is certifying that he has received training in that task and agrees that he is qualified to perform it. Finally, the Form 623 is an official record of whether the procedures required in AFM 50-23 are being followed properly or not. For this reason, it is always examined closely by command and inspector general (IG) inspection teams.

THIS BLOCK IS FOR IDENTIFICATION PURPOSES ONLY		
TRAINEE		
NAME Doe, John E.	INITIALS (In Writing) J.E.D	GRADE A1C
ORGANIZATION 4315TH CCTS		
IMMEDIATE SUPERVISOR'S NAMES AND INITIALS (In Writing)		
NR W.J. Williams WJW	NR	
NR	NR	

QUALITATIVE REQUIREMENTS

PROFICIENCY CODE KEY		
	SCALE VALUE	DEFINITION: The Individual
TASK PERFORMANCE LEVELS	1	Can do simple parts of the task. Needs to be told or shown how to do most of the task. (EXTREMELY LIMITED)
	2	Can do most parts of the task. Needs help only on hardest parts. May not meet local demands for speed or accuracy. (PARTIALLY PROFICIENT)
	3	Can do all parts of the task. Needs only a spot check of completed work. Meets minimum local demands for speed and accuracy. (COMPETENT)
	4	Can do the complete task quickly and accurately. Can tell or show others how to do the task. (HIGHLY PPOFICIENT)
TASK KNOWLEDGE LEVELS	a	Can name parts, tools, and simple facts about the task. (NOMENCLATURE)
	b	Can name the step by step procedures for doing the task. (PROCEDURES)
	c	Can explain why and when the task must be done and why each step is needed. (OPERATING PRINCIPLES)
	d	Can predict, identify, and resolve problems about the task. (COMPLETE THEORY)
SUBJECT KNOWLEDGE LEVELS	A	Can identify basic facts and terms about the subject. (FACTS)
	B	Can explain relationship of basic facts and state general principles about the subject. (PRINCIPLES)
	C	Can analyze facts and principles and draw conclusions about the subject. (ANALYSIS)
	D	Can evaluate conditions and make proper decisions about the subject. (EVALUATION)

EXPLANATIONS

A task knowledge scale value may be used alone or with a task performance scale value to define a level of knowledge for a specific task. (Examples: b and 1b)

A subject knowledge scale value is used alone to define a level of knowledge for a subject not directly related to any specific task, or for a subject common to several tasks.

This mark is used alone instead of a scale value to show that no proficiency training is provided in the course, or that no proficiency is required at this skill level.

X This mark is used alone in course columns to show that training is not given due to limitations in resources.

Figure 4. **Sample proficiency code key.**

1. TASKS, KNOWLEDGES AND STUDY REFERENCES	PROFICIENCY LEVEL, PROGRESS RECORD AND CERTIFICATION								
	2. 3 Skill Level			3. 5 Skill Level			4. 7 Skill Level		
	A AFSC/Grs	B Date OJT Started	C Date Completed & Trainer's, Trainee's Initials	A AFSC	B Date OJT Started	C Date Completed & Trainer's, Trainee's Initials	A AFSC/Grs	B Date OJT Started	C Date Completed & Trainer's, Trainee's Initials
NOTE: Users may annotate lists of SRs to identify current references pending STS revisions.									
1. COMMUNICATIONS-ELECTRONICS SYSTEMS CAREER FIELD									
SR: AFM 39-1 (vol I); AFVA 39-1									
a. Progression in career ladder 304X5	B/-			C			C		
b. Duties of AFSCs 30435/55/75	B/-			B			C		
2. COMMUNICATIONS SECURITY (TRANSEC)									
SR: AFP 50-47; AFR 205-7									
a. Identify information as classified, unclassified, or of possible intelligence value	1b/-			2b			3c		
b. Determine proper classification of official information as Top Secret, Secret, Confidential, or For Official Use Only	1b/-			2b			3c		
c. Select and recommend mode of transmission dictated by security and expediency required	1b/-			2b			3c		
d. Observe security precautions involved in voice communications	b/-			2b			3c		
3. TECHNICAL PUBLICATIONS									
a. Scope and application of the technical order system	B/-			C			C		
SR: TO 00-5-1 (sec I thru VII)									
b. Use numerical index and requirement tables to locate technical orders	2b/-			3c			4c		
SR: TOs 0-1-01, 0-1-31									
c. Locate desired information in technical orders	2b/-			3c			4c		
d. Procedures involved in obtaining technical orders	A/-			B			C		
SR: TO 00-5-2 (sec VII)									

NO ADVANCED COURSE

– This mark is used alone instead of a scale value to show that no proficiency training is provided in the course, or that no proficiency is required at this skill level.

X This mark is used alone in course columns to show that training is not given due to limitations in resources.

Figure 5. **Sample specialty training standard page.**

The rules regarding entries on Form 623 were relatively rigid, but the amount of freedom available to the supervisor is considerable. If more room is needed to document any item, the supervisor can use a record continuation sheet (AF Form 623a). The current Form 623 is shown in Appendix A.

The most important form contained in an airman's Form 623 is the JPG. A few JPGs are specially designed to meet the needs of a particular operational command for detailed task breakdowns in particularly critical specialties. Most JPGs are created simply by taking the specialty training standard for the specialty for which a man is training, and modifying it so that it becomes a specific training plan for that particular person. Two types of modifications to the STS are made when it is converted into a JPG. First, the supervisor circles those tasks (using the appropriate skill-level column) for which that particular person is to receive training. Second, the supervisor may, if he so desires, make use of a JPG continuation sheet (AF Form 797). An example of a modified STS and a JPG continuation sheet are provided in Appendix A.

Duties and Responsibilities for OJT

Complete lists of duties and responsibilities of major commands, commanders, CBPO OJT units, OJT administrators, immediate supervisors, trainees, and testing offices are listed in detail in AFM 50-23, and will not be repeated here. Certain duties and responsibilities for each category of person are of special interest, however, and it is these items that will be discussed briefly.

MAJCOM OJT Staffs

Each Major Command Headquarters in the Air Force has a small OJT staff, consisting primarily of NCO Training specialists ("75s"), that coordinates and monitors OJT programs in that command. In addition to approving certain actions and providing various kinds of assistance, this staff is responsible for evaluating the OJT programs at various bases and field activities. Different approaches to evaluation are used depending on the particular needs and experiences of the various commands. The topic of OJT evaluation is discussed in greater detail in the next section of this report.

Commanders

The commanders are, of course, responsible for the OJT programs in their commands. The most important thing that the commander does is to provide strong command support for OJT by what he says and does. The commander is the one who really has control over both the rewards and corrective actions in his command. Communications to and from the commander about the strong and weak points in his program are consequently extremely important in insuring that effective OJT is accomplished.

CBPO OJT Unit

Each consolidated base personnel office (CBPO) has a small OJT staff of NCO and Training ("75") specialists that is responsible for providing certain services to the various organizations and tenant units at a particular base. They process and approve much of the paper work associated with the OJT program, provide professional advice to squadron OJT administrators, schedule end-of-course tests, collect statistics regarding the various programs, and audit the OJT program in each squadron to make certain that all programs are administered in accordance with regulations.

Squadron/Detachment OJT Administrators

The squadron OJT administrator is responsible for coordinating training as well as keeping track of the paperwork. He is the main staff man for the first line supervisors in a unit, and works very closely with them. He advises the supervisors how to handle problems, prepares the AF Form 623 for new trainees, makes certain that necessary career development courses and other training supplies are available, administers the volume review exercises, and monitors proficiency training to be certain that it is conducted in accordance with the needs of the trainees.

Immediate Supervisors

The immediate supervisor is the key person responsible for seeing that the proficiency training is conducted. He may actually do the training himself, or he may assign somebody else to do it. He designs

the proficiency training by selecting or identifying relevant task statements from an STS to make up the JPG. He is also responsible for counseling the trainee for the purpose of providing assistance and determining progress. This counseling "must cover strengths, areas needing improvement, attitude and means to improve" (AFM 50-23). Although proficiency training is his primary responsibility, the immediate supervisor is also expected to motivate trainees to complete their CDCs in a timely fashion, and to assist them if necessary.

Trainees

Under current policies and procedures, the trainee has relatively little to do with the design of his own training program. He is expected to "accept and react favorably to motivational efforts" and to "accept and perform all training requirements" (AFM 50-23). Primarily, his role is that of an apprentice with one exception. He is expected to use some of his own personal time for studying his CDCs. The actual time requirements are uncertain. Some work centers make time available for studying CDCs during work hours (e.g., during slack periods or during equipment down time) – but other work centers are unable to do so. Regardless of the amount of time made available to him, however, the trainee is expected to complete his CDC close to the minimum time requirement for upgrading (six months for the 5-level), and sooner, if possible.

Testing Office Responsibilities

A lot of testing is done in the Air Force, so most bases have special offices that administer end-of-course examinations (CEs) for CDCs as well as other tests (e.g., SKTs, AKTs, reading level examinations). Since the testing office is responsible for receiving, controlling, and administering CEs, it is very important to the OJT upgrade process.

IV. EVALUATING OJT IN THE AIR FORCE

Different approaches to evaluating OJT are used at different levels. Headquarters, U.S. Air Force tends to look at several statistics such as upgrade times, numbers of people in training in the various MAJCOMs, and other items. The MAJCOMs evaluate their field activities in terms of the statistics looked at by Headquarters, as well as a few additional statistics such as training status and pass-fail rates. There exists a variety of detailed statistical reporting systems, so a MAJCOM OJT staff is in a position to inquire about specific individuals who are having trouble, if it chooses to do so. Inspector general teams look very closely at compliance with regulations regarding the documentation of training, so the MAJCOMs give the documentation close scrutiny also.

Squadron commanders also look at statistics (especially those scrutinized by the MAJCOMs), but they are more likely to evaluate the OJT program in terms of the performance of the unit during team exercises and practice missions of various kinds. To the squadron commander, OJT is a solution to a problem. It there are no apparent problems to be solved, he is usually willing to assume that the OJT program is operating satisfactorily.

The CBPO is responsible for periodically evaluating all the OJT programs at a particular base, making certain that the scheduling and documentation are satisfactory, and following up on problems that affect the statistics that are closely reviewed by higher-level headquarters. They also investigate individual complaints.

Supervisor-trainers who do the training also evaluate the program, along with the unit OJT administrators who coordinate the training. In addition to being concerned about statistics, documentation, individual complaints, and unit performance, the Unit OJT administrators and supervisors have special duties of an evaluative nature. They must evaluate the performance of a given individual's trainer in light of the trainee's performance with respect to specific tasks.

Models for Evaluation of On-the-Job Training

If one sets aside evaluation in terms of compliance with documentation regulations and concentrates on the effectiveness of the training itself, rather than just the degree of standardization in record-keeping, there are three basic approaches to the evaluation of OJT in the Air Force: (a) knowledge testing, (b) individual proficiency evaluations, and (c) unit readiness testing. The knowledge testing is conducted by

examinations of various kinds, and the proficiency evaluations are largely conducted by supervisory and commanding officers' appraisals–but some independent evaluations are also possible.

Given three kinds of evaluation, and two approaches to it, there are at least six different kinds of OJT evaluation possible in the Air Force, as shown in Table 5. It is important to note that evaluation always involves a comparison between an expected standard and actual performance. It should also be noted that OJT is evaluated as a natural result of Air Force programs (practice missions, operational readiness inspections, etc.) that are not normally thought of in connection with OJT.

Table 5. **Models for Evaluation of On-the-Job Training**

	LINE SUPERVISOR EVALUATIONS		INDEPENDENT EVALUATIONS	
	Supervisory Evaluation of JPG		**AKT and CE (Course Exam) for CDC; SKT**	
Knowledge Testing	Required knowledge of selected STS or JPG categories	vs. Actual knowledge of selected STS or JPG categories as demonstrated by answers to questions	Required specialty knowledge	vs. Actual specialty knowledge as demonstrated in written examinations
	Supervisory Evaluation on Airman's Performance Report		**(Maintenance Training Only)**	
Individual Job Proficiency Evaluations	Specific duties as indicated in job description on Airman Performance Report and the JPG	vs. Supervisor's evaluation of duty performance	Specific qualification requirements for job as dictated by Tech. Orders	vs. Independent evaluation of actual qualifications for job as determined by quality control inspectors
	Command Evaluation of Practice Missions and Maneuvers		**Operational Readiness Inspection**	
Unit-Readiness Testing	Commander's expectations for unit performance	vs. Actual unit performance (e.g., accidents)	General unit capability requirements specified in force planning documents	vs. Actual capability of unit as determined by inspection team

Undesirable Consequences of Statistical Evaluation at Headquarters Levels

Statistical reports regarding numbers of personnel in training and upgrade times in the various commands are periodically prepared by the Military Personnel Center and forwarded to Air Force and MAJCOM headquarters, along with other items of information. The MAJCOM headquarters have learned to be extremely cautious about which statistics they pay attention to, since there are often a large number of undesirable and sometimes unexpected consequences associated with the way in which headquarters locations evaluate OJT.

The problem of "unexpected consequences" of headquarters evaluation policies was explored systematically early in this project. Some of the MAJCOM headquarters OJT staffs were asked to indicate what they thought would happen if OJT were to be evaluated in certain ways. The questions that were asked, and some of the paraphrased answers made by command headquarters locations are given as follows.

QUESTION: *What would be the advantages and disadvantages if OJT programs were evaluated solely in terms of CDC-CE test results?*

1. The use of CDC-CE results as an evaluation instrument creates more problems than it solves.

2. The tendency is too great for supervisors to concentrate on test pass-fail rather than on quality of actual job proficiency training.

3. CDC course exams are not always of the best quality.

4. It would deemphasize the OJT program for those AFSCs that do not have CDCs.

5. It would give an untrue picture of the program status because knowledge is only a small portion of upgrade training. Proficiency on the job is far more important.

6. CDCs are *self-study* courses. To evaluate a commander on the results of his troops' *self-study* programs would not be a true evaluation of the unit's training capability.

QUESTION: What would be the advantages and disadvantages if OJT were evaluated solely in terms of "excessive training time" (i.e., nonprogression)?

1. It might encourage units to allow more work time for training purposes than is really necessary.

2. Many personnel take longer to be upgraded than others because of moves.

3. We would be at a disadvantage, because some of the slow learners, when trained, can become our most valuable personnel.

4. This would only place emphasis after the fact, and normally this is too late to produce a good training program.

5. If only one tool were used, this would be the best. It is our opinion that a reduction in excessive trainees is associated with improvements in most other areas of OJT.

QUESTION: *What would be the advantages and disadvantages if OJT were evaluated solely in terms of time to complete upgrade training?*

1. It would rob the individual and commander of the time required in some cases, and would have a degrading effect since "quality" could not be rated.

2. A "fair" amount of time to complete upgrade training is impossible to determine in a fair and equitable manner.

3. Lack of reading ability and disciplinary problems with trainees make this unfair.

4. It doesn't allow for the complexity of different AFSCs.

5. Numerous personnel take longer to complete training because of PCS moves.

QUESTION: *What would be the advantages and disadvantages if OJT programs were evaluated solely in terms of the ratio of the number of people upgraded to the number of people in training?*

1. When commanders are requested to upgrade certain percentages of their assigned personnel, they do so indiscriminately and precipitantly without regard for the quality of training.

2. Units having a large influx of trainees would be at a disadvantage until such time as the trainees became ready to upgrade.

3. The human element involved in individual trainees would not be taken into consideration.

4. If a trainee could not be upgraded before he became a negative statistic, he would just be withdrawn from training to make the records look good.

5. It would degrade the quality of training because of inherent tendency to "beat the system."

QUESTION: *What would happen if OJT programs in the maintenance area were evaluated solely in terms of performance standards evaluation reports as conducted by higher headquarters?*

1. The higher headquarters doesn't have the capability to get behind the scenes in OJT at the unit level.

2. Maintenance standards evaluation reports should be used to complement other evaluation techniques. If they were used to evaluate OJT, it would require a dual system of evaluation; one for maintenance and one for nonmaintenance. Maintenance reports are not suited for use as a sole evaluation of OJT because they are oriented more toward compliance than toward cause and effect.

3. Although maintenance practices are standard, the people who apply them are not. It was our experience to receive as many as three completely different interpretations of an OJT requirement from three different evaluators from the same functional area.

4. It would not give a current indication of the program or expected results at a later date. The OJT program is not a program in which you can afford to wait a long time before you correct problems.

The previous questions and comments clearly indicate that there seems to be something wrong with all the above program evaluation techniques *when used in isolation*. It is, of course, possible for headquarters OJT staffs to use several different approaches in evaluating a variety of OJT statistics, and it is the opinion of most MAJCOM staffs that this is the best strategy to follow. Typical comments to this effect are noted here.

"Any single factor (such as overtime, excessive training, upgrade rate, etc.) used to evaluate an OJT program is meaningless. Collectively, they tend to produce optimum training programs."

"All three (number of trainees upgraded, excessive training time, time to complete upgrade training) are relevant to OJT evaluation, but they must be considered as a 'family.' Evaluating an OJT program must contain checks and balances to prevent undue attention to one area."

"By themselves, the proposed methods of statistical evaluation would be neither comprehensive nor valid. Combined, these factors relate only to the upgrade portion of OJT. Any system of evaluation for OJT should be able to evaluate all areas within the program."

One of the problems with statistical evaluations, as suggested in the last comment, is that many statistics about the knowledge or CDC side of the Air Force dual-channel system are very visible and available, but there are few, if any, trustworthy statistics regarding the proficiency side. Upgrade time is based upon completion of both sets of requirements, but the certification of proficiency training tends to become almost automatic in low-hazard, nonmaintenance specialties, once knowledge requirements have been met. That is, when trainees have passed their end-of-course examinations for their CDC, the certification of completion of proficiency training usually follows very quickly. Thus, care must be taken to avoid overemphasis on CDCs and time to upgrade, because necessary job proficiency training can suffer as a result.

Serious complaints about statistical evaluations can occur if ratings are used to compare bases or units and to evaluate commanding officers. If a particular statistic seems to be a problem that will affect the reputation of a unit or a commander improving that statistic is, of course, given immediate attention. The attention, however, may take the form of pressure upon supervisors to upgrade trainees before they are really qualified to do the job. Commanders also complain a great deal, because they resent statistical evaluations, since statistics do not account for unusual circumstances that may be beyond the commander's capability to control (e.g., a unit may be suddenly sent overseas instead of being allowed to complete its training at a base in the United States). It is significant that most MAJCOMs that have experimented with a command rating system based upon OJT statistics have dropped it on the grounds that it was causing more trouble than it was worth.

Uses of Statistics by MAJCOM OJT Staffs

Although most of the MAJCOMs that were surveyed scrupulously avoid command rating systems, several of them insisted that certain minimum standards should be maintained. Indeed, Air Force policy leaves them little choice. There is, for example, a limit on how much training time can be permitted trainees at each skill level. The number of trainees in "excessive training" is consequently a statistic that everyone watches closely. Some examples of statistics that are monitored by various MAJCOMs are given in the following paragraphs.

At the time of this analysis, the Military Airlift Command (MAC) OJT staff monitored statistics regarding the number of personnel who were overtime in training and suspended (removed) from training. These two statistics were selected because they had been found to be closely related to the staff's evaluations of the quality of OJT programs, following on-site visits.

The Tactical Air Command (TAC) OJT staff monitored five separate statistics: (a) the percentage of upgrades (the TAC standard at the time of this study was 8% per month); (b) the percentage in excessive training (not to exceed 3%); (c) the percentage of trainees who were removed from training for failure to progress (not to exceed 3%); (d) the number of staff sergeants who should be in 7-level training, but who were not (not to exceed 1%); and (e) the CDC and apprentice knowledge test (AKT) pass results (the TAC standard at the time was an 80% pass rate). A weighted formula was used in which the most weight is given to the upgrade percentage and the percentages of excessive and nonproductive trainees. Although TAC has had a command rating system, the emphasis was on meeting the minimum standards rather than on any numerical totals or base comparisons. All bases that met the minimum standards were considered satisfactory.

The Strategic Air Command (SAC) OJT staff monitored statistics regarding the percentage of upgrades every month (standard of 8%), number of personnel in excessive training (standard of 7% or less), and the number of eligible personnel not in training (standard of 5% or less).

Major Command OJT Evaluations

Whether a MAJCOM sets minimum standards or not, all MAJCOM OJT staffs currently make use of statistical reports regarding OJT on a *management by exception* basis. If a particular unit or base seems to be having a problem with excessive trainees, for example, the OJT staff is most likely to write or call the OJT staff man at the local base CBPO level. The statistical reporting procedures are so detailed that some of the commands make a practice of informing their field activities, which airmen by name, are creating a problem as far as statistical records of progress are concerned. If a problem persists, a MAJCOM OJT staff member will visit the field activity and try to help solve the problem. If the problem still persists, a formal letter will be prepared for signature by the Commanding General's authorized designate. So the MAJCOM OJT staffs have a lot of influence on OJT programs. The usual policy, however, is to use statistics to identify specific problems requiring headquarters intervention or assistance—not to just use statistics to evaluate or compare subordinate commands.

Inspector General Evaluation Procedures

There are two kinds of IG evaluations in the Air Force. One is a "functional-area" inspection; the other is a "unit-effectiveness" inspection. The functional area inspection usually lasts about six months and results in an overall evaluation of a particular program or functional area, as well as detailed recommendations for changes in specific policies and procedures. The typical unit-effectiveness inspection occurs much more regularly, lasts a few days, and is primarily concerned with compliance with regulations and procedures at one particular location.

No *functional-area* inspection of the OJT system had been made as of the time of this analysis. This is understandable as there are more requests for functional-area inspections than the Air Force IG can handle, and the OJT program is generally considered to be a healthy one. Thus, it had not been considered as high priority for functional-area inspections are concerned.

However, *unit-effectiveness* inspections that include OJT are made all the time, even though the typical unit-effectiveness inspection is concerned with many items in addition to the OJT program. The path of least resistance for most MAJCOM IG inspection teams is to determine whether the paperwork associated with the OJT program is filled out correctly—and this is what an IG unit-effectiveness inspection team usually does. Part of the problem is that the kind of OJT evaluation techniques that are needed ("results-oriented" rather than the "compliance-oriented") have not yet been developed. Another part of the problem is that the typical Air Force or MAJCOM IG inspection team does not have any experienced "75" OJT NCOs on its staff, so the subject matter expertise needed to evaluate the results of the OJT program is usually not available.

Evaluation and Support by Unit Commanders

It is generally agreed by Air Force "75" OJT experts that a really critical factor in the success of any OJT program is the kind of support that the program gets from the commander. It is not a matter of

whether he supports the Air Force OJT program. *Every commander does*. The question is how much priority is given to OJT when other considerations make it difficult to provide strong support (e.g., a loss of productive time because of the time spent on training).

The priorities in any unit or squadron depend upon the occurrence of critical events that focus the attention of decision makers—within the unit and at high-level headquarters—and the OJT program is affected accordingly. If there is an accident involving refueling of an aircraft, for example, the commander may well decide to train everyone involved in that one task until it can be done to his satisfaction. Team training exercises and practice missions are important ways in which unit commanders can evaluate the effectiveness of their OJT programs.

The actions of the unit commander are extremely important, since he is the one who controls the rewards. If one work center has a very good OJT program, for example, a word of praise can have a beneficial effect on the performance of those who are responsible for it. For this reason, it is most important that the unit commander be kept well informed about the status of his OJT program.

Unfortunately, the procedures for informing the commander about problems in his OJT program tend to be very formal. If, for example, a member of the CBPO OJT staff visits a command location, he is normally expected to submit a written report describing the purpose of his visit and any actions that he may recommend. This formality has a number of disadvantages, and one of them is that commanders are often not informed about problems until they have become serious.

Evaluation of OJT Programs by the Centralized Base Personnel Office

Thirty-two duties and responsibilities for OJT programs are listed in AFM 50-23 for the CBPO OJT Unit. They collect and maintain statistics regarding the conformity of base OJT programs to directives and MAJCOM requirements—a difficult task in some cases, since several different commands are often represented as tenant activities at any one Air Force base. They are required to make a staff visit to each on-base unit at least once every 180 days to evaluate the administration and effectiveness of the OJT programs. They also conduct monthly meetings with on-base squadron OJT administrators. The CBPO OJT staff has more responsibility for administrative evaluation of OJT programs than any other office.

The CBPOs are ideally suited for evaluation, since they are close to the programs being conducted, are in a separate and independent chain of command, and have functional program area responsibility. All kinds of evaluation methods are used: statistics regarding such things as upgraded and excessive trainees; compliance with regulations in record keeping; investigations of complaints of individual trainees and supervisors; and examinations of overall program effectiveness. Some CBPOs also conduct periodic questionnaire surveys or interviews of supervisors and trainees to identify problem areas and to determine if there is any way in which the present programs can be improved.

Evaluations by Supervisor-Trainers, Unit OJT Administrators, and Quality-Control Specialists

In addition to being concerned about statistics, compliance with regulations, individual complaints, and overall program effectiveness, the people at the unit and work-center level must also evaluate the proficiency of trainees (and the trainers) who perform specific tasks. Most other levels are responsible for seeing that proficiency training is documented—but they are not responsible for personnally seeing that the actual training is properly done.

The supervisor-trainer and unit OJT administrator are also responsible for seeing that the trainee completes his CDC satisfactorily. Some commands have been very strict about this, and if a trainee failed his end-of-course examination, his supervisor has been required to come in after hours and provide the trainee with special tutoring.

Supervisory evaluations are complicated by the fact that there are two basically different kinds of Air Force specialties: technical or high-hazard specialties (e.g., maintenance, munitions) that involve a high degree of safety or operational consequences if the trainee is not properly trained; and nonmaintenance specialties (e.g., an administrative clerk) that are not so likely to create serious operational hazards for people if the tasks are not performed properly. Evaluations of OJT in maintenance and nonmaintenance specialties tend to be somewhat different.

All Air Force specialties are covered by AFM 50-23. This means that each supervisor-trainer is required to evaluate the proficiency of trainees with respect to each task that is circled on the trainee's JPG. However, no specific guidance is given regarding how the supervisor-trainer is to accomplish this. The typical evaluation technique in nonmaintenance specialties is simple observation.

High-hazard specialties, such as aircraft maintenance, are also governed by the procedures contained in AFM 66-1. Many special procedures for evaluating proficiency are prescribed. There is quite an elaborate system for keeping track of who is qualified to do what, and a variety of different forms are required. Evaluation is greatly simplified, however, because personnel in these specialties work on equipment for which the exact procedures to be followed have already been specified in Air Force technical orders (TO). Consequently, there is no need to design an elaborate proficiency evaluation test. Either the trainee (or a person who has been previously certified as qualified) can follow the procedure in the TOs or he cannot. If he can follow the TOs—and perhaps explain why he is doing things one way rather than another—he is qualified. If he cannot follow procedures in accordances with the TOs, he is not qualified.

In addition to the fact that individual proficiency evaluations are better documented and better organized, the maintenance and high-hazard specialties also have periodic evaluations of more general training problems in a unit as a whole. A quality control group is responsible for continuously reviewing production records and accident records to see if there is any pattern that would suggest a training problem. Two accidents in towing aircraft, for example, could lead to a special course of instruction on that subject.

The quality-control experts also evaluate the individual qualifications of trained personnel on a scheduled basis. They might, for example, observe someone changing a tire at least three times every month. The regulation permits them to use any evaluative technique they choose—they could conceivably create a "test" by asking someone to do something, even when it does not need to be done. More typically, however, the quality control inspectors just look over some's shoulder when work occurs in a natural way. If the person does not perform satisfactorily, the quality-control inspector has the authority under the maintenance standards evaluation program (MSEP) to decertify the man on the spot. Because of such procedures and safeguards, the proficiency side of training is well monitored and well documented for maintenance and high-hazard specialties.

In contrast, for nonmaintenance or "support" specialties, the "observation" to determine whether a person can meet requirements tends to be most informal and even casual.

Evaluation by the Trainee

As prescribed in current Air Force regulations, very little freedom is permitted the trainee. His primary responsibilities are to be receptive to instruction and complete his CDC. There is one act by which the trainee can indicate dissatisfaction with his proficiency training. He may, if he chooses to do so, refuse to initial the tasks on his JPG that indicates that he concurs with the supervisor's opinion that he is now qualified to perform those tasks. It is a very rare trainee who will do this, however. Even those trainees who are convinced that their training has not been satisfactory are not likely to alienate their supervisors—and diminish their own chances of being upgraded or promoted—by refusing to initial the tasks on a JPG when told to do so by their supervisors. In addition, as regards their knowledge training, trainees are asked to complete evaluation forms and questionnaires evaluating their CDCs.

Evaluation of CDCs by ECI and ATC

CDCs are written and rewritten by proponent schools in the Air Training Command, and edited and reviewed at the Extension Course Institute of the Air University. A sample critique form used by ECI is shown as Figure 6. Such forms stress editorial matters (easy to understand, fairness of test) rather than subject-matter adequacy. However, the ATC CDC evaluation questionnaires emphasize subject matter adequacy. A sample trainee questionnaire is shown as Figure 7.

EXTENSION COURSE INSTITUTE

COURSE CRITIQUE QUESTIONNAIRE

You have recently completed ECI Course _____ and can help us evaluate its effectiveness. We ask you to answer the following statements regarding the course. Your response data will be forwarded to course writers and text constructors as part of a continuing effort to evaluate and improve the effectiveness of training programs. Your cooperation in making this an accurate survey of opinion is appreciated. Beside each statement, please circle the letter most closely representing your opinion, using the following scale:

a - Strongly Agree, b - Agree, c - Disagree, d - Strongly Disagree

1. The course material is well organized and easy to understand. a b c d

2. The course material is up-to-date in comparison to actual job requirements. a b c d

3. The illustrations used in the course are clear and support the written material. a b c d

4. The course study reference guide was a useful aid in reviewing course material prior to taking the closed-book course examination. a b c d

5. The Volume Review Exercises were useful in helping to understand the course material and review for the Course Examination. a b c d

6. The Course Examination is a fair test of the subject matter taught by the course. a b c d

7. The 12 months allowed by ECI to complete this course should be reduced to 6 months or less. a b c d

8. Taking the course helped me to increase my career field skill level. a b c d

9. Taking this course assisted me in preparing for the Specialty Knowledge Test (SKT). a b c d

10. Comments. _____

_____

_____

_____

PLEASE FOLD THIS SHEET ON LINES INDICATED, SEAL OR STAPLE AND PLACE IN RETURN MAIL

ECI FORM 24
Revised Apr 73

Figure 6. **Sample ECI critique form.**

CAREER DEVELOPMENT COURSES (CDC) TRAINEE QUESTIONNAIRE

1. IDENTIFY THE CDC YOU HAVE JUST COMPLETED BY ENTERING:

DATE STARTED	CDC NUMBER	TITLE

2. DUTY AFSC	JOB POSITION TITLE	END OF COURSE TEST NUMBER

3. WAS THE CDC EASY TO READ AND UNDERSTAND? *(If no, identify and state why)*

☐ YES ☐ NO

4. DID THE ILLUSTRATIONS AND FOLDOUTS ADEQUATELY SUPPORT THE TEST AND REVIEW QUESTIONS? *(If no, identify and state why)*

☐ YES ☐ NO

5. ARE THE TOOLS, EQUIPMENT PUBLICATIONS, TEST SETS, FORMS, ETC., PRESENTED IN THE CDC SIMILAR TO THOSE YOU USE ON THE JOB? *(If no, state why)*

☐ YES ☐ NO

6. COULD YOU ANSWER THE END-OF-CHAPTER REVIEW QUESTIONS AND EXERCISES FROM THE INFORMATION GIVEN IN THE CDC? ☐ YES ☐ NO

7. WERE THE END-OF-VOLUME AND END-OF-COURSE TEST QUESTIONS COVERED IN THE CDC *(If no, identify the subjects)*

☐ YES ☐ NO

8. DID THE CDC CONTAIN INFORMATION, TASKS, EQUIPMENT, ETC, WHICH YOU DO NOT NEED FOR YOUR JOB? *(If yes, identify)*

☐ YES ☐ NO

9. DID YOU REQUIRE EXTENSIVE USE OF OTHER REFERENCE MATERIAL TO UNDERSTAND ANY OF THE SUBJECT AREAS? *(If yes, identify the reference)*

☐ YES ☐ NO

10. DID YOU RECEIVE FORMAL CLASSROOM INSTRUCTION OR OTHER HELP ON THIS CDC? *(If yes, approximately how many hours each week)*

☐ YES ☐ NO

11. CHECK THE RATING WHICH MOST NEARLY DESCRIBES THE USEFULNESS OF THIS CDC IN YOUR UPGRADE TRAINING PROGRAM. ☐ EXCELLENT ☐ SATISFACTORY ☐ MARGINAL ☐ UNSATISFACTORY

12. COMMENTS AND RECOMMENDATIONS FOR IMPROVING THE CDC.

LAST NAME - FIRST NAME - MIDDLE INITIAL	GRADE	CURRENT DATE

ORGANIZATION AND UNIT	AUTOVON/EXTENSION

BASE	MAJOR COMMAND

PRIMARY AFSC	TOTAL SERVICE TIME	TOTAL MONTHS IN CAREER FIELD	MONTHS EXPERIENCE IN CURRENT JOB

AF FORM OCT 71 1327

Figure 7. **Sample ATC questionnaire form.**

V. EXPLORATION OF OJT PROBLEM AREAS

Visits to MAJCOM Headquarters Locations

Although the intention was to conduct an Air Force wide analysis of OJT, it was not practical to contact all Air Force Major Commands. Commands were selected on the basis of the size of their OJT program and the presence of unique factors that would provide a good over-all sample of Air Force OJT procedures and problems. Overseas commands and Reserve programs were precluded on the grounds of expense, even though it was recognized that they represent important OJT concerns worthy of analysis, as well.

Seven MAJCOMs participated in this study, and each of their headquarters locations were visited.

Aerospace Defense Command (ADC), Ent AFB, Colorado Springs, Colorado
Air Force Communications Service (AFCS), Richards-Gebaur AFB, Kansas City, Missouri
Air Force Systems Command (AFSC), Andrews AFB, Washington, D.C.
Air Training Command (ATC), Randolph AFB, San Antonio, Texas and OJT Advisory Service (ATC), Sheppard AFB, Wichita Falls, Texas
Military Airlift Command (MAC), Scott AFB, Belleville, Illinois
Strategic Air Command (SAC), Offutt AFB, Omaha, Nebraska
Tactical Air Command (TAC), Langley AFB, Hampton, Virginia

Most of the time at the MAJCOM headquarters locations was spent with the Command OJT staff. These staffs varied in size from one to six persons, depending upon the size of the OJT program and the command attitude toward decentralization of authority in this area. Most staff members were experienced training NCOs. A few of the larger OJT staffs had officers in charge.

Agenda items for the MAJCOM visits grew in number as the researchers progressed from command to command. By the end of the visits, the headquarters agenda was as follows:

General problems with OJT

Ways the command headquarters evaluates the OJT programs of its field activities.

Effectiveness of STSs and JPGs.

Remedial reading problems.

Feasibility of expanding the MSEP approach to proficiency evaluation to other AFSs (in addition to maintenance specialties).

Review of draft conceptual framework for models for evaluation of OJT (See Table 5).

Review of plans for innovation ideas to be discussed with small groups of supervisors and trainees during field-activity visits.

Review of draft portions of a supervisor's questionnaire to be administered during field-activity visits.

Review of draft portions of trainee questionnaire to be administered during field-activity visits.

Advantages and disadvantages of centralized base OJT concept as proposed by ATC.

Recommendations as to which command field activity should be visited.

Some of the questions were based upon the list of potential innovations (Stephenson & Burkett, 1974) that were being generated as the literature review was being conducted. It was found that the best approach to identifying and exploring problem areas was to propose a solution to something that was suspected of being a problem, or that had been identified elsewhere as being a problem, and then to discuss the implications of appropriateness of the proposed solution. As reactions were obtained and changes were made, the list of problem areas and proposed innovations was refined and expanded. Half the ideas might fail to survive one MAJCOM visit, but more ideas seemed to develop for discussion on the next visit.

Field-Activity Visits

Base-level visits were subsequently made to one field activity or tenant location of each command, and in some instances, more than one.

Almaden Air Force Station, Almaden, California (ADC)
Hamilton AFB, San Rafael, California (ADC, AFCS)
Randolph AFB, San Antonio, Texas (ATC)
Brooks AFB, San Antonio, Texas (AFSC)
F. E. Warren AFB, Cheyenne, Wyoming (SAC, AFCS)
March AFB, Riverside, California (SAC)
Norton AFB, San Bernadino, California (MAC, AFCS)
Nellis AFB, Las Vegas, Nevada (TAC)
Lowry AFB, Denver, Colorado (ATC, AFCS)

Each field-activity visit lasted approximately two days. During this period, the investigators observed training in action, held lengthy discussions with trainees and supervisors, and discussed problem areas and lists of potential innovations with work-center superintendents, the CBPO staff, OJT administrators, and where possible visited the local representative of the OJT Advisory Service. Most of the information was gathered in small group conferences and interviews, but the investigators also went into the work centers where the training was actually being done to obtain first-hand impressions of how the training programs were being conducted.

The agenda for these field activity visits, like the agenda for the MAJCOM visits, grew in traveling from one location to another. Toward the end of these visits, most of the time was spent presenting and field-testing questionnaires and discussing problem areas and innovations. Slightly different agendas were scheduled (Table 6) for groups of work-center superintendents, supervisor-trainers, OJT administrators, trainees currently in training, and trainees who had recently completed training. Commanders and staff

Table 6. **Agenda Items for Field Activity Visits**

Research Item	CBPO Staff	Work Center Superintendents	Reporting Supervisors, Squadron Coordinators, and OJT Administrators	Trainees	Trainees Who Have Completed UGT
Potential innovations	x	x			
OJT Questionnaire for work-center superintendents	x	x			
OJT Procedures Questionnaire for supervisors	x		x		
OJT Work-Activities Questionnaire for supervisors	x		x		
OJT Procedures Questionnaire for trainees	x			x	
OJT Work-Activities Questionnaire for trainees	x			x	x
OJT Interviews for Administration by CBPOs to trainees who have completed UGT to the 5-level	x				x
OJT Questionnaire for supervisors of personnel in Category B specialties	x		x		
Short-form version of Problem Ratings Questionnaire	x		x		

officers were also contacted when possible. All of the agenda items were discussed with the CBPO OJT staff and the local representative of the OJT Advisory Service, if one were present at that particular base. The groups ranged in size from two or three to twenty, averaging about ten in most cases. Approximately 50 persons were contacted at each location (i.e., a total of 350 Air Force personnel were contacted who were actively involved in the OJT program at all levels). The complete list of innovation ideas was discussed only with the training NCOs, including OJT advisors, and the work-center superintendent groups (i.e., about 20 persons at each base—approximately 150 persons). Some of the ideas were also discussed with groups of supervisor-trainers and trainees on a selected basis.

Since the proposed innovations changed dramatically from one Air Force base to another, none of these "idea" conferences was identical. A typical conference would open in a relatively unstructured way, in that the group of conferees were asked what they thought of the OJT system, what problem areas they could identify, and how they would improve the OJT program. After about one-half hour of discussion, reactions to new ideas were sought. Those present were asked to criticize the questionnaires being developed for use as part of an OJT Program Evaluation Guide.

Design and Pretest of OJT Questionnaires and Interviews

The primary objective of Phase II was to develop a program evaluation guide which would describe various ways of evaluating OJT programs for possible use at the various levels of the Air Force OJT system up through headquarters staff level. A number of questionnaires and interview procedures were consequently designed and pretested during the MAJCOM and field-activity visits. The new evaluation procedures included the following:

1. A *situation-description* questionnaire that would permit a work-center superintendent to describe factors or circumstances in his work center that could interfere with the center's ability to provide an outstanding OJT program.

2. Two *time-allocation* questionnaires for use in describing the ways in which OJT staff people people and OJT trainees spend their time, and what activities they perform to accomplish OJT.

3. Two slightly different versions of an *OJT procedures* questionnaire for use with supervisor-trainers (version no. 1) and trainees (version no. 2) in evaluating OJT policies, procedures, and program components.

4. A *trainee effectiveness* questionnaire for use in evaluating the tradeoffs between OJT and resident school training.

5. A *structured interview procedure* for use by CBPOs in interviewing trainees who had recently completed upgrade training to determine whether there were any problems in the operation of the local program.

The questionnaires are of no particular concern here, other than to indicate that a number of the ideas for proposed modifications to the Air Force OJT program, described later in this report, grew out of the responses to the discussion and pretesting of these questionnaires.

Information About Problem Areas

Considerable information about the nature of problems associated with the OJT program was collected. This information was available form three sources: The interviews conducted during the field-site visits; one of the questionnaires that was pretested during the projects; and a survey conducted by the OJT Advisory Service in 1973.

The first questionnaire developed under this project was one in which supervisors rated 15 situational conditions in terms of the extent to which they were adequate, inadequate, or just about right; as well as the extent to which each condition was a problem. This questionnaire stabilized during the MAJCOM visits; thus, the problem ratings were collected from 77 work-center superintendents and supervisors at the various field-activity locations. Results are shown in Tables 7 and 8. The big problems seem to be connected with turbulence (Table 7) and the amounts of time available for training (Table 8). These are chronic problems everywhere as Air Force budget and manpower authorizations diminish. Important problems that seem to be more directly related to the OJT program are the proficiency training documentation procedures, the CDCs, and the variety of tasks locally available for training. It should be noted that all items listed were considered to be problems by some of the respondents.

Table 7. **Supervisor Opinions About Excessive Conditions That Create Problems for OJT Programs**

Opinion	Percent Indicating That Condition is "Excessive" (N = 77)	Percent Indicating That Situation is a "Grave" or "Major" Problem (N = 77)
Personnel turbulence	49	44
Number of trainees with attitude, adjustment and/or motivation problems	39	37
Proficiency training documentation procedures	36	32
Number of Directed Duty Assignments	21	20
Number of trainees needing remedial reading programs	30	16

Table 8. **Supervisor Opinions About Conditions Inadequate for OJT Programs That Create Problems**

Opinion	Percent Indicating that Conditions are "Inadequate" (N = 77)	Percent Indicating That Situation is a "Grave" or "Major" Problem (N = 77)
Trainee time available for training and/or duty performance	54	47
Available trainer/supervisor time	64	46
Percent fill of personnel space requirements	44	36
Adequacy of CDC	48	35
Training opportunity - variety of and opportunity for task performance	41	33
Facilities and equipment	44	28
Ratio of immediate supervisor/trainers to trainees	26	24
Task analysis procedures	34	24
Training expertise of trainers and immediate supervisors	36	22
Proficiency evaluation procedures	24	21

OJT Advisory Service Survey

In 1973, the OJT Advisory Service conducted a large scale survey on the OJT program for Headquarters, U.S. Air Force. The survey consisted of two slightly different versions of a single page of questions about the OJT program. The number of supervisors completing the survey was 1,582; the number of trainees completing the survey was 1,590.

The raw data were given to AIR to analyze as part of this OJT study. The analysis required considerable effort because of the large sample sizes (eleven people were used in coding the data and getting it ready for keypunching). Quality-control procedures were used and errors were kept below 1/2 of 1%.

Coder agreement was very high in that the raters averaged 98% agreement in selecting content code categories.

At the time that the content analysis of the surveys was conducted, most of the conclusions and recommendations (based upon the field-activity visits) had already been formulated in a preliminary way. It was consequently possible to structure the content analysis of the survey data in terms of predetermined subject-matter categories that could conceivably support or fail to support our conclusions. It is as if the field activity visits were used to phrase questions that could be answered in a positive or negative way by the OJT Advisory Service Survey data.

A description of the results of the OJT Advisory Service Survey is contained in Appendix B. The results that are most indicative of problem areas are the responses to the questions about ways of improving the OJT program and the nature of the respondents' "number-one complaint" about the program.

The implications of the survey data are discussed in Section VI.

Problem Area Discussion Items

Problem area discussion items were identified, modified, and expanded as the site visits progressed from one field location to another. The initial MAJCOM headquarters visits surfaced a variety of OJT problem areas, even though these visits were primarily concerned with techniques for evaluating OJT programs but, by the time the field-activity visits were completed, 17 problem areas had been identified and were being dealt with.

It was discovered that respondents were reluctant to discuss "problems" as such. If, however, they were confronted with a recommendation for a specific change, they would go into elabrate details regarding the reasons that such a change would or would not work. Discussion of each problem area was stimulated, consequently, by asking for reactions to specific proposals for modifications or improvements in the OJT program.

Ultimately, seventy-five discussion items were stated in the form of possible or proposed modifications to in the Air Force OJT system. The discussion items were grouped into 17 problem areas. Each area is discussed separately.

NO. 1. Upgrading Procedures

In the first place, there was some question as to whether the upgrading procedures were flexible enough, and whether the minimum time requirements were always necessary. There also seemed to be a problem that genuine skill-level differences in some specialties do not really exist. The list of proposed modifications that were designed to stimulate discussion of this problem area is given here.

No. 1. Upgrading Procedures

1a Authorize base classification boards to waive minimum upgrade time requirements for individuals who can pass the CDCs and perform well in task (proficiency) evaluations administered by an impartial evaluator.

1b Insist that different skill levels really be different by finding a different way of awarding 7- and 9-skill levels (perhaps eliminating the CDC) for cases in which there is no significiant difference between levels (flight crew positions are examples of specialties that do not have significant differences between skill levels).

1c Permit waivers of the 5-level CDC requirement for Tech School graduates who can pass the 5-level CDC end-of-course examination before they leave Tech School

NO. 2. The Need for Required Training in Certain Tasks

The dual-channel system seems to have solved many training problems in the Air Force. Locations that did not have all the equipment in a specialty (e.g., an isolated radar site) could still train personnel in certain specialties, since upgrading could be accomplished with proficiency in a very few locally available

tasks. A trainee is not required to learn all the tasks in the STS, and, in fact, it is currently possible to upgrade a trainee based upon proficient performance of a *single* task, if that is all that is locally available *and* he can complete his CDC.

Most supervisors feel somewhat uncomfortable with this single-task proficiency policy, but are firmly against any return to the previous system in which training in *all* tasks was required. It seemed that a compromise between the two extremes might be in order. Proposed changes designed to stimulate discussion in this area are given as follows:

No. 2. Required Training in Certain Tasks

2a Require a minimum amount of proficiency training in a small number of unusually important tasks whenever a committee of NCOs in that specialty decide that circumstances warrant it. The group of NCOs would have access to computer runs of task inventory data indicating how many people in each specialty perform each task. If a decision is made to impose such a requirement in a specialty, the STS would be reorganized so that the selected tasks would appear on the first page. The requirement would then be expressed in one of two ways: (a) training in all tasks on the first page is required; or (b) training in some minimum number of tasks listed on the first page (e.g., 3 out of 10) is required. The new policy could be implemented routinely when STSs are revised.

2b Once minimum requirements have been specified, only authorize training in a task if a work center is qualified in terms of available equipment and personnel. (This could be done by circling authorized tasks and skill levels on the STS or JPG for each specialty the work center is authorized to train.)

2c Also revise assignment procedures so that trainees who cannot receive required minimum training at a particular location are not assigned there in the first place.

NO. 3. Revised Record-Keeping Procedures in Maintenance and Other High-Hazard Specialties

Certain specialties are governed by the maintenance management program in AFM 66-1. Periodic checks are made of these individual's ability to perform certain tasks. As part of the maintenance standardization and evaluation program (MSEP), there is a considerable amount of record keeping involved. Many supervisors indicated that some of the record keeping required by AFM 66-1 duplicated records that were already kept in the OJT training record (Form 623), as required by AFM 50-23. Because of the interest in this problem, the maintenance OJT experts in two squadrons were consulted. Tentative recommendations that were proposed to stimulate discussion are given as follows:

No. 3. Revised Record-Keeping Procedures in Maintenance and Other High-Hazard Specialties

3a Encourage bases that can do so to establish computer card qualification records for maintenance and other high-hazard specialties (some have already done so).

3b Drop the requirement (specified in AFM 66-1) for separate maintenance training records (on forms 2424 and 989) at bases that have established a computerized record-keeping system describing qualifications of personnel.

3c Once the computer card qualification record system is established, distribute monthly updates of personnel qualification computer runs to key personnel in Quality Control, Training Management, Unit Operation, shop supervision, and so forth.

NO. 4. Revised Record-Keeping Procedures in Nonmaintenance, Support Specialties

Nonmaintenance, nonhazardous specialties seemed to have less need for detailed records of task proficiency qualifications after an airman has finished upgrading and had reached the 7-skill level. The 7-level must have been reached before promotion to E6. Following this, there are no additional skill requirements in nonmaintenance specialties for promotion to E7, so the record keeping seems somewhat superfluous. Some training NCOs also thought that the OJT training record (Form 623) could be improved. Proposed changes designed to stimulate discussion in this area are shown here.

No. 4. Revised Record-Keeping Procedures
in Nonmaintenance Support Specialties

4a Drop the requirement to keep records in terms of STS categories for anyone who is not in upgrade training or retraining status. Instead, establish a requirement for periodic career-planning conferences in which such things as scheduling for leadership training, advanced technical training, and job-rotation schedules are discussed (the conclusions reached during such conferences could be entered on Form 623a).

4b Drop the requirement that the supervisor who signs the APR must initial each task certifying completion of proficiency training and permit the supervisor to delegate this to trainers (reporting supervisors would still sign papers certifying completion of upgrade training).

4c Rearrange the format of the training record (Form 623) to make it easier to record information.

4d Avoid frequent changes in record-keeping procedures required for Form 623.

4e Revise AFM 50-23 to de-emphasize details of how records are kept (e.g., by *recommending* the use of a pen to make an entry rather than requiring it), and put more emphasis on program objectives.

4f Establish a counseling record form as part of the training record (Form 623). Reserve the left half of the page for the trainee to indicate what his own objectives are during a particular period of training. Reserve the right half of the form for the supervisors to respond. Comment sheets more than one year old would be thrown away, but the sessions are to be recorded every three months for those in upgrade training to the 5-level, and every six months thereafter. These procedures are designed to force supervisors to provide counseling sessions and should provide trainees with more influcence over their work assignments. They are also intended to help put more emphasis on the "whole man" concept in OJT.

4g Reorganize AFM 50-23 in a modular fashion so that the information needed by different users is located in different chapters. Issue the chapters separately for those who want them.

NO. 5. Task Evaluations in Nonflying, Nonmaintenance Specialties

Outside the maintenance area, there are no detailed TOs, and no elaborate checklists to assist the supervisor in his evaluations. Thus, proficiency evaluations in nonflying, nonmaintenance specialties tend to be perfunctory, if they are done at all. Some of the NCOs thought that certain specialties really needed a more structured approach to task evaluations, while other specialties could be comfortably evaluated with unstructured observation of the casual variety. Advice in Air Force manuals on how to conduct task proficiency evaluations is not sufficiently specific. Proposed ideas that were designed to stimulate discussion are shown in the following.

No. 5. Task Evaluations in Nonflying,
Nonmaintenance Specialties

5a Require that task evaluation procedures be documented in detail for a few selected high-hazard specialties (e.g., rescue, medical teams, building trades)

before completion of training is certified (task evaluation documents would meet this requirement, and would become a part of the training record).

5b Provide specific task performance checklists and performance-rating scales to assist supervisors in evaluating task performance when documented task-evaluation procedures are required.

5c Revise AFM 50-23 to instruct supervisors to put more emphasis on requirements that the trainee must give verbal explanation of "why" he does things one way rather than another when there are alternative ways of doing things.

5d Revise AFM 50-23 to instruct supervisors to put more emphasis on the requirement that the trainee be observed performing each task before he is certified in that task.

5e Put more emphasis on task-evaluation producedures in AFM 50-23 (current coverage is only a few pages).

NO. 6. The Need for Periodic Surveys of OJT Trainees

Interviews and conferences were held with several groups of trainees at each field activity location. Most trainees had strong opinions about their experiences in the OJT program and wanted to express them. Such trainees were almost unanimously in favor of some kind of periodic survey of OJT trainees on the grounds that this would be helpful to those who managed the program, as well as helpful to the trainees. Proposed improvements designed to stimulate discussion are given in the following.

No. 6. Periodic Surveys of OJT Trainees

6a Headquarters, U.S. Air Force should administer periodic (e.g., once every three years) questionnaire surveys to at least 100 trainees who have recently completed upgrade training in each major command. The trainees would be asked to indicate their satisfaction with existing OJT procedures and policies and would be invited to comment about plans for possible program changes.

6b Require NCOs on the CBPO OJT staff to interview about 100 trainees who have recently completed upgrade training at each base every year. Trainees would be asked to describe and make comments about the procedures that were used in their own training, and to suggest ways in which their own training could have been improved. The CBPO would be required to prepare a written report on these interviews, but the CBPO staff could use the information in any fashion it deemed appropriate. However, if an interviewee requested that his anonymity be protected, the CBPO would be required to do so.

NO. 7. Incentives for Progress in OJT

Many supervisors thought that the Air Force had made a mistake by removing the requirement for an airman to acquire the 5-skill level before promotion to E4. Because of this, some trainees did not study their CDCs as much as they otherwise might have done. Other supervisors thought that the "fast burners" who could go through the program quickly had no incentive to learn because of the rigid requirements about minimum time requirements before upgrading. Proposals designed to stimulate discussion in this area were as follows.

No. 7. Incentives for Progress in OJT

7a Do not promote to E3 unless an airman is qualified at the 3-skill level, or to E4 unless an airman is qualified at the 5-skill level.

7b Do away with minimum time requirements before upgrading, provided that task proficiency can be clearly demonstrated.

7c Encourage commanders to authorize the use of token incentives (e.g., time off) for completion of training on schedule or ahead of schedule.

NO. 8. Procedures for Low-Aptitude Personnel

Most supervisors had encountered someone with a reading problem. Such reading deficiencies seriously interfere with progress in upgrade training, since the man must be diverted from job training for the purpose of finishing some sort of reading improvement program. Some supervisors with difficult workloads felt that they needed to keep personnel working rather than let them attend remedial reading courses. Proposed improvements designed to stimulate discussion are given below.

No. 8. Procedures for Low-Aptitude Personnel

8a Give reading-level tests to everyone before basic training. Provide those who need it with as much remedial reading training as they can absorb during a period of 4 to 6 weeks. Then, either assign the man to a specialty that is appropriate for his reading level, or (if he still has not shown a reasonable amount of progress) drop him from the service.

8b Design several job-oriented remedial reading programs (each providing instruction in the Air Force vocabulary used in a broad career field) for use in base-level remedial reading programs so that those who wish to do so can continue to improve. Put the emphasis on job vocabulary.

8c Establish tighter quality-control procedures over the reading level of Tech School materials and CDCs by using computerized reading level evaluation techniques.

8d Require simplification of Tech Orders and CDCs that are written above the reading-level of those to be assigned. If this is not practical, raise the reading-level requirement for these specialties.

NO. 9. A Different Approach to Directed Duty Assignments

One of the decisions of interest from a cost-effective point of view is the mix of resident school training and Directed Duty (OJT only) Assignments (DDAs) for Category B specialties. A questionnaire was designed for collecting information on the relative advantages of these alternatives; but, gradually it became evident that the wrong questions were being asked. It is not a simple matter to determine which of two alternatives is cost-effective, and it appears to be particularly difficult to derive this type of information from a questionnaire. It is possible to redefine the whole problem so that many options could exist, and different kinds of information about relative costs would then be needed. Specific proposals in this area are given below.

No. 9. A Different Approach to Directed Duty Assignments

9a Reformulate resident school training for "Category B" specialties in a modular fashion so that each individual can have a different mix of OJT and resident school training depending upon his needs.

9b Establish priorities for training at each "Category B" technical school based upon number of training modules taught as well as the number of resident school trainees.

9c Design systematic checklist procedures at each "Category B" school for use in making individualized decisions about which areas should be taught in resident school (variables such as school history, personal preferences, and previous job experience would be considered) and which should be taught in OJT.

NO. 10. Inspection Procedures

Inspection procedures were a sore point with many supervisors and training managers. The general feeling was that inspections and IG teams put too much emphasis on minor details of documentation, such as whether ink or pencil was used in completing forms, and not enough emphasis on the effectiveness of the OJT program in doing what it was supposed to do, that is, on actual quality of training. There was also

concern about the undesirable consequences associated with command rating procedures. Changes in the inspection procedures that were proposed for use in stimulating discussion are presented here.

No. 10. Inspection Procedures

10a Design new inspection procedures (modifying IG and OR inspections) that will provide higher-level Headquarters with results-oriented evaluations of the effectiveness of OJT in terms of individual as well as unit performance. One possibility is that trainees would be required to demonstrate the skills certified on their JPG. (See also recommendations 17a and 17b.)

10b Re-introduce qualified "75" training NCOs on IG unit-effectiveness inspection teams.

10c Requests for policy-oriented "functional area" IG inspections of OJT should be made every five years by Headquarters, U.S. Air Force.

10d Develop new IG procedures based upon prediction studies of the more reliable indices of unit effectiveness (e.g., the number of missions aborted) in which various ways of describing the OJT program are used as predictors.

10e Do not use any command-rating systems for evaluation purposes until valid predictors have been found that do not have undesirable or unexpected consequences. Previous command rating systems have resulted in "pencil whipping" of records and upgrading of personnel who are not really qualified.

10f Incorporated procedures by which the number of additional duty assignments given to CBPO OJT staffs and unit OJT administrator staffs are reviewed in terms of their appropriateness by IG inspection teams. (See also recommendations 12a, 12b, and 12c.)

NO. 11. "75" Training Personnel

A number of "75" OJT experts (Training NCOs) were encountered everywhere the researchers went, and a number of suggestions were made for minor changes that would improve the use of this career ladder in various ways. Those suggested at one location were listed for discussion at the next location. Discussion items as regards "75" training personnel are presented here.

No. 11. "75" Training Personnel

11a Select personnel for retraining into the "75" field on a competitive basis, using a specially designed selection program.

11b Review the current training policies for "75" personnel to determine if specialized resident school training in certain areas (e.g., classification, computer records) would be desirable.

11c Periodically (once every three years) solicit the opinions of OJT "75" personnel at the base and squadron level as regards existing and proposed OJT policies and procedures. This can be done by administering Air Force wide questionnaires to approximately 100 "75" personnel of each type (this could be accomplished concurrently with the surveys proposed in 16a, 16b, and 16c).

NO. 12. Manpower Allocation Procedures

Different commands have slightly different staffing arrangements for OJT staffs. This was especially true of the Air Training Command, which for a number of years had centralized many of the functions normally performed by squadron OJT administrators and arranged to have them performed in a centralized base OJT office. Other commands were unanimous in preferring a decentralized approach. ATC has since eliminated its centralized OJT program at the direction of HQ USAF and now operates like the other MAJCOMs. Manpower allocation procedures are also of interest because unit OJT administrators are often given so many additional duty assignments that they have relatively little time for OJT. Specific proposals designed to stimulate discussion in this area are given below.

No. 12. Manpower Allocation Procedures

12a Design checklists procedures and manpower requirement tables (containing different time-requirement estimates for each specialty) for use by CBPOs in advising work-center superintendents as regards how much supervisor-trainer time should be devoted to OJT.

12b. Design checklist procedures and manpower requirement tables (containing different time-requirement estimates for each specialty and considering the number of additional non-OJT duties assigned) for use by CBPOs in advising unit commanders as regards the number of OJT administrators needed and how much unit OJT administrator's time would be devoted to OJT.

12c Design checklist procedures and manpower requirement tables (containing different time-requirement estimates for each specialty and considering the number of additional non-OJT duties assigned) for use by CBPOs in advising the DP as regards the number of people needed and how much CBPO OJT time should be devoted to OJT.

12d Validate the three checklists described above by evaluating the quality of the OJT programs in several different commands that have different staffing plans for OJT. Such a validation would necessarily consider the effects of different staffing patterns on the time involvement of supervisor-trainers.

NO. 13. Quality of Assignment Procedures

A number of complaints were made about procedures by which trainees are assigned to specialties. An airman assigned to a specialty he does not want is a serious motivational problem for supervisors; thus, there was much interest in this area by supervisors as well as OJT trainees. Reassignment to new specialties seems to be very difficult to arrange, which complicates things. Specific proposals made in order to stimulate discussion on this topic are given in the following.

No. 13. Assignment Procedures

13a Study cases in which specialties are guaranteed by recruiters to determine if more information should be provided (e.g., reading-level tests) and if tighter standards should be maintained before committments are made by Air Force Recruiters to train recruits in a certain specialty.

13b Incorporate a brief five-day orientation program ("try before you buy") into the assignment process for those who are either uncertain about their preferred specialty assignment or have been restricted to third or fourth choices that they have not had a chance to compare.

13c Make a positive recruiting effort to find people who prefer unpopular specialties instead of forcing so many recruits to accept assignments they do not want.

13d Authorize exceptions to the 18-month duty requirement before retraining is authorized for those trainees who are willing to pay the price of a prolonged period of enlistment (similar to obligations that exist for officers).

13e Authorize more by-passed specialist assignments at the 5-skill level for those who can meet the requirements (e.g., dental technicians).

13f Decentralize the authority to reclassify someone into a new AFSC to Base Classification Boards in cases where there is a two-thirds approval by the Board membership (current policies require MAJCOM approval).

13g Develop and expand the Special Experience Identifier (SEI) system so that it applies to all Air Force Specialties. Then give consideration to the equipment on which a man has been checked out (or not checked out) when assignments are made. (This would require a number of changes in the procedures for requisitioning and assigning personnel.)

13h Revise Tech School scheduling practices so that theory is taught closer to those points in time at which trainees need the information and are motivated to learn it (some of the longer courses would be separated into two or more short courses).

13i Provide more choices and more flexibility in scheduling Tech School for those who enlist for six years (e.g., one option might permit them to delay choosing a specific Tech School for a year).

NO. 14. CDC Policies and Procedures

Complaints about CDCs were usually concerned either with their being out of date or unrelated to the tasks being performed on the job. A trainee who is required to study the engine of an aircraft that he has never seen, for example, is not very motivated to learn that information. Similarly, a trainee who is required to learn procedures that are out of date and no longer used in the Air Force just because the CDC has not yet been updated tends to find the experience frustrating, as well as a waste of time. There were also complaints about the CDCs as regards the excessive duplication of what was already learned in technical school. Many positive suggestions were made, and many of the OJT NCO training experts had some ideas on ways of improving the CDC paperwork system.

Specific items that were used to stimulate discussion are given as follows:

No. 14. CDC Policies and Procedures

14a Periodically, provide information to supervisors about what is being taught in Technical Schools for the specialties they supervise.

14b Review CDC to decide if there is undesirable duplication of effort with Tech School. If there is, either revise the CDCs, make them optional, or stop publishing them.

14c Put CDCs in binders and establish a system that will facilitate updating.

14d Keep specific items of equipment out of the basic CDCs and make available training supplements (dealing with locally available equipment) that can be added to a CDC binder at the request of a supervisor. (See also Item 15c regarding SKTs.)

14e Reformulate plans for maintenance CDCs so that they are envisioned as an incremental part of an overall CDC-FTD system in which (a) FTDs (rather than CDCs) are used to provide training in specific items of equipment; and (b) the needed theoretical background and equipment training is provided in increments at the specific times that they are needed and wanted.

14f Use closed-book VREs instead of open-book VREs, but make it possible for CBPOs to provide immediate scoring and immediate feedback to trainees by decentralizing the scoring of VREs.

14g Conduct improved quality-control surveys of CDCs and CDC examinations (more frequently and in greater depth).

14h Redesign CDC quality-control procedures so that approximately 20 geographically dispersed supervisors in each specialty area are asked to provide specific recommendations about what should be done in revising the CDC volumes on an annual basis.

14i Revise CDC volumes more frequently in rapidly changing fields (once a year in some cases).

14j Administer CDC end-of-course examinations for the 5-level at Tech Schools, if the resident training seems to overlap with CDC. Make the CDC requirement for upgrading optional for those who pass the CDC end-of-course examination at Tech School.

14k Permit an individual who has passed a 3 or 5-level CDC end-of-course examination to start studying the CDC volumes for the next skill level, even though he has not yet been placed on UGT to that level.

14l Review CDC end-of-course examinations to determine if the exams are memory tests rather than tests of knowledge that are really required in order to do the work. (This should be a part of the current work on Instructional Systems Development (ISD), but test-evaluation research studies are also needed.)

NO. 15. Possible Improvements in SKT Examinations

The notions of a "modular" SKT examination were explored on the grounds that the SKTs could be used to provide personnel with feedback regarding their strong points and weak points. That is, the information could be made available for guiding Air Force personnel in individualized improvement programs. Specific items for discussion are given here.

No. 15. Specialty Knowledge Tests (SKTs)

15a Report SKT results by subject matter area so that personnel can identify their strong and weak points.

15b Score SKT examinations for minimum knowledge as well as promotion, and insist that people maintain a minimum knowledge score or go back into OJT, or obtain examination waiver recommendations from three supervisors.

15c Keep the SKTs free of questions about specific items of equipment and establish a separate set of equipment knowledge qualification tests. Personnel would have to pass a minimum number of equipment knowledge tests at each skill level in addition to passing the SKT. (Each man would be permitted to select tests corresponding to the equipment with which he had experience. The equipment knowledge tests could be scored on a pass-fail basis, rather than scored competitively.)

NO. 16. More Involvement of Line Supervisors and Commanders

Complaints have been made that the OJT system was a "paper-mill," or a "paper-work empire." There does seem to be too much emphasis on the details of record-keeping practices, especially by MAJCOM IG teams. One possible reason for an overemphasis is that the record-keeping policies and procedures have been formulated at conferences of training NCOs, that is, staff people—without any line representation. There may also be a problem in keeping certain commanders informed about the true status of their OJT program. Because of the paper-work, the normal channels in reaching a commander tend to be rather serious and formal. Specific proposals for stimulating discussion in this area are given here.

No. 16. More Involvement of Line Supervisors and Commanders

16a Periodically solicit the opinions of line supervisors regarding existing and proposed OJT policies and procedures by administering Air Force wide questionnaires to 100 supervisory NCOs and 100 work-center superintendent NCOs in each major command at least once every three years.

16b Send work-center line superintendent NCOs to participate in periodic Air Force wide conferences that are concerned with OJT policies and procedures.

16c Make sure that commanders are informed about OJT by requiring brief (5-minute) presentations by a training NCO from the CBPO OJT staff during monthly Wing/Group staff meetings. The presentations should focus on the effectiveness of the OJT program from a management objective point of view (rather than forms maintenance).

NO. 17. Give More Recognition to the Fact that Some Work Centers have Unusually Difficult Training Loads

One of the problems in evaluating OJT programs is that there are many mitigating circumstances when programs are not at maximum effectiveness. Consider, for example, two work centers. In one work center, there is a very heavy training workload, there are many DDAs, the specialties tend to have low-aptitude requirements, and several people need remedial-reading assistance. Another work center with conditions that are exactly the opposite (i.e., a light workload, few trainees, high-aptitude specialties, and no reading problems) is very likely to have a much better record with respect to most OJT statistics. Yet, it is possible that the supervisors in the handicapped work center are doing a much better job of OJT than the supervisors in the work center that reflects better conditions.

Specific proposals that were discussed for trying to deal with this problem are given as follows:

No. 17. Give More Recognition to the Fact that Some Work Centers Have Unusually Difficult Training Loads

17a Each base CBPO should periodically compute statistics regarding the number of trainees upgraded in each work center and the average amount of time that the trainees remained in the work center after upgrading. (Separate indices of training "investments" and "payoffs" could be computed for each work center, using a standardized worksheet. Turnover in the unit would be an important part of these indices.) The information would be used on a "management-by-exception" basis by the CBPO without being published.

17b Each base CBPO should periodically collect and publish anonymous (base-level only) statistics regarding the extent to which each item on a standardized list of situational conditions is thought to interfere with the base capability to provide an outstanding program.

Ratings of Problem Area Discussion Items

In order to stimulate discussion of the proposed ideas, each work-center superintendent or training NCO who reviewed the list of proposals was asked to indicate whether he approved or disapproved a particular item. These ratings were usually made one page at a time. The investigator would then ask if anyone disapproved the items, one item at a time. Each person who indicated disapproval was asked to explain why he thought that the proposed idea would not work. This approach proved to be an effective way of stimulating discussion as well as an effective way of improving the ideas from one field site visit to the next visit.

Gradually, more and more of the ideas seemed to become settled, in the sense that there were fewer and fewer suggestions for change. Specific conclusions began to be formulated about each problem area, and the need to implement or field test the proposed program modifications began to be assessed.

VI. CONCLUSIONS AND RECOMMENDATIONS

The 75 ideas and the 17 problem areas listed in the previous chapter were used as a method of stimulating discussion. Much was learned from reactions to these ideas, and even more was learned when certain ideas did not survive criticism. The proposed program modifications and problem areas were not equivalent to "conclusions," however. To reach conclusions, it was necessary to review all the information collected from the (a) literature survey, (b) analysis of OJT programs in other services, (c) MAJCOM and field activity visits, (d) questionnaires, (e) OJT Advisory Service Survey results, and (f) the ratings of the desirability of the proposed ideas.

Specific recommendations indicating how a problem could be solved or how a program could be field tested or implemented were then provided for each conclusion to Headquarters, U.S. Air Force.

It was also requested that there be a distinguishing between two types of recommendation:

1. Immediate actions that could be taken now;

2. Proposed field tests that would require some preliminary work before a new policy could be adopted.

It was further requested that the proposed actions and field tests be prioritized.

This list of actions and field-test proposals was then discussed with those that have responsibility for the program at headquarters locations (U.S. Air Force Headquarters, the Air Training Command Headquarters, and the Extension Course Institute of Air University). Some changes were made as a result of these headquarters conferences, but many of the tentative conclusions and recommendations will still have to be field tested prior to any wide-scale implementation.

Specific Conclusions and Recommendations

The first seven conclusions and recommendations were considered to be "action" items, which, if validated by other sources of information, could be implemented immediately. The other conclusions and recommendations (items 8 through 30) were stated in the form of proposed field tests of ideas. All of these were then presented to a worldwide MAJCOM OJT conference, and based upon the reaction and consensus of the MAJCOM representatives, specific recommendations for actions and field-tests were developed. Some of the original recommendations were modified or deferred. A number were also adopted and implemented, including some which had orginally been proposed as field-tests, such as number 19 on restructuring the Air Force Form 623. Thus, all of the recommendations have been considered within the Air Force OJT community. While some of these may never prove feasible for adoption, a number are still under consideration or awaiting the results of field-tests. All are presented here for documentary purposes to indicate the conclusions and ideas that resulted from this analysis.

Where data are available to support a conclusion, such data are cited. Where the conclusion is based upon something else (e.g., literature review, expert opinion), that is made clear. When supporting data are cited from the OJT Advisory Service Survey, (Appendix B), considerable caution must be used in interpreting the statistics. The number of response categories used to analyze this survey varied from question to question, depending largely upon how specific the question was. Based upon probabilities, the percentages in a "Yes"–"No" question will tend to be around 50%–that is, the percentages will be relatively large. In the case of an open-ended question like, "What could be done to improve the Air Force OJT program?" there might be as many as 20 response categories, and the percentages coded into each response category would tend to be around 5%. The fact that one percentage is close to 50% and another is close to 5% is not easy to interpret under such circumstances. It is possible that 50% of the Air Force supervisors would have supported a specific suggested improvement in the OJT program, if a direct question had been asked. Conversely, it is possible that only 5% of the Air Force supervisors would have voluntarily proposed a particular improvement if an open-ended question had been asked rather than a specific one. We just do not know exactly what some these percentages mean until a more specific, decision-oriented series of questionnaires can be administered.

Conclusion	*Recommendation*	*Priority*
(1) Information collected from supervisors and trainees about such things as relevance of CDC's, "pencil whipping," and inadequate proficiency training could be very useful in program planning decisions at headquarters levels.	Administer questionnaire surveys to 100 supervisors and 100 trainees from each MAJCOM, the Air National Guard, and the Air Force Reserve, and collect information about problems in OJT and reactions to proposed solutions.	HIGH

One conclusion that needs little additional support is that more data are needed concerning specific aspects of the OJT program. Recommendation No. 1 consequently proposes a large-scale survey based upon the conclusions and recommendations in this report. Two different multiple-choice questionnaires should be administered: one for trainees and one for supervisors and OJT administrators. The questions should be based, in part, upon the various questionnaires that were designed and pretested during the field-activity visits, and, in part, upon the list of conclusions and recommendations in this section.

Another reason for suggesting the survey is that the trainees interviewed during the field-activity visits almost unanimously agreed that periodic surveys of trainees would be a good idea.

Conclusion	*Recommendation*	*Priority*
(2) Resources available for technical writing and quality control of CDCs are inadequate and many CDCs are out of date.	Provide ATC and ECI with resources needed for improved quality control and more rapid updating. *(Recent improvements have been made in this area, but additional resources are still required for more rapid updating of CDCs.)*	HIGH

Many comments critical of CDCs were made during the conferences that were held with trainees. Many trainees considered that their CDC volumes and CDC workbooks were over-technical, uninteresting, and dull. Trainees in certain specialties felt that the CDCs were so out of date that they considered it a waste of time to read certain chapters.

In addition to the impressions of the researchers during the field visits, the OJT Advisory Service Survey contained several specific questions about CDCs. Significant findings that suggest the need for more resources for quality control and a more rapid system of updating are cited here:

1. When asked what could be done to improve the OJT program, 140 (11.2%) of the trainees responded, "Revise and condense the CDC volumes so that they are less technical and more interesting." Another 115 (9.2%) said that the Air Force should, "Improve the quality of the training aids and materials."

2. When supervisors were asked about their opinion of the CDC for their AFSC, only 51.6% thought that the CDCs were acceptable without change. The rest of the sample had various suggestions for improvement.

3. When asked what could be done to improve the CDCs, 22.2% of the supervisors thought that their CDC should be revised and updated.

Other data relevant for this recommendation can be found in Appendix B.

Conclusion	*Recommendation*	*Priority*
(3) Inspection teams are putting too much emphasis on details of how records are kept instead of end results.	Revise AFM 50-23 so that certain record-keeping practices are recommended instead of required. *(Changes along this line have been implemented in the August 1974 revision of AFM 50-23.)*	HIGH

Most of the information leading to this finding came from work-center superintendents and supervisors. For example, it was possible for a supervisor with a truly outstanding OJT program—as far as program effectiveness was concerned—to be given a poor write-up following an inspection, because he had recorded something with a pencil rather than a pen, or vice versa. It was also possible for a program that looked good on paper to receive praise that was completely unwarranted by the program results.

One relevant finding in the OJT Advisory Service Survey was that 4.4% of the supervisors made comments that were coded as, "The JPGs tend to be 'pencil whipped' (i.e., falsification of proficiency records and inadequate counseling)." Another relevant finding is that when 18% of the supervisors described their "number-one" complaint about the OJT program, they made responses that were coded as, "Too much emphasis on paper work and documentation; eliminate superfluous forms and reduce documentation." The problem is a most important one.

Conclusion	*Recommendation*	*Priority*
(4) There is duplication in record-keeping practices required by AFM 66-1 and AFM 50-23.	Drop requirement for certain AFM 66-1 forms at units that have established computerized record-keeping procedures for maintenance specialties. *(This has been done, and duplicative requirements between AFM 66-1 and 50-23 have been eliminated.)*	HIGH

There were repeated complaints from supervisors (those in the maintenance area) and others regarding duplication of documentation efforts required by AFM 66-1 and AFM 50-23. Because of these

complaints, a special visit was made to two Wing OJT groups at Nellis AFB, Nevada, in order to study, more closely, the possibility of unnecessary duplication of effort. Small group conferences of line supervisors, quality-control NCOs, and local OJT personnel were assembled, and the problem was explored.

The forms required by the two sets of regulations are similar and there *is* some duplication, because there is actually a *need* for multiple copies of documents describing evaluations of the qualifications of maintenance personnel. The immediate supervisor needs the information in order to know what he can assign a man to do. The quality-control experts need information regarding how effectively maintenance tasks are being performed. The man, himself, needs some kind of certification that proves that he is authorized to do certain things. The Wing OJT office needs to know what kind of progress each man is making in his training program. Since multiple copies of qualification evaluations were needed, it was possible to argue that duplication of record-keeping functions were not really a problem.

There are many difficulties, however, in keeping so many qualification records up to date. Rather than require that each office update its own records, it seemed reasonable to experiment with a punched-card computerized record-keeping system (maintained by one office only) from which multiple copies could be prepared. Both Wings visited were attempting to establish such a system. Currently the Air Force Maintenance Management Information and Control System (MMICS) incorporates computerized records of the type proposed in this recommendation.

Conclusion	*Recommendation*	*Priority*
(5) Air Force manuals do not provide enough information as regards the conduct of task evaluations during and after proficiency training.	Revise AFM 50-23 to expand the section on task-evaluation procedures.	HIGH

Proficiency evaluation involving objective performance standards is not only a current training fad, it is almost demanded by Supreme Court rulings in cases involving discrimination against minority groups. In the case of resident training schools programs, the Air Force is reacting by building an "instructional systems" concept into its various courses. However, little has been done to improve proficiency evaluation in OJT programs, other than to say a few words about objective performance criteria in certain training manuals that are supposed to be looked at by the supervisors who do the training.

The situation is complicated because not much help is needed in those cases for which proficiency evaluation is really essential. In the case of maintenance specialties (where evaluation is very important), there is abundant help in the form of TOs and checklist procedures, and the evaluation is more formal. In the case of nonmaintenance, support specialties (where evaluation is not so important), the "proficiency test" is more likely to be a matter of unplanned, unscheduled, and nonstandardized observation of performance by the supervisor who is supposed to conduct the evaluation.

Regardless of the amount of support already available for the conduct of proficiency evaluations, both kinds of supervisor (maintenance and nonmaintenance) would benefit from more guidance regarding objective performance standards and ways of designing proficiency tests. In one case, the supervisor might better understand what he is doing; in the other case, the supervisor might be more likely to do some of the things that he is supposed to do. The situational condition ratings obtained during the field site visits (see Tables 7 and 8) are relevant to this conclusion. Twenty-four percent of the supervisors indicated that they considered the proficiency-evaluation procedures to be inadequate; 21% thought that the inadequacy of the proficiency-evaluation procedures was a "grave" or "major" problem.

Conclusion	*Recommendation*	*Priority*
(6) The needs and interests of line supervisors (as opposed to OJT staff experts) have not been adequately represented at Air Force wide conferences that are concerned with OJT policies and procedures.	Require that MAJCOM send one line superintendent as well as one or more "7S" staff experts to future conferences. *(This was tried on an experimental basis at the last world-wide OJT conference in January 1974.)*	HIGH

Changes in the standardized policies and procedures are normally reviewed by committees of senior NCO training specialists who attend periodic meetings to review OJT policies and procedures as

representatives of each Major Command Headquarters. A number of policy and procedural changes have been adopted at such conferences that line supervisors considered to be either unnecessary or an imposition on their time. Thus, it seems desirable to invite some line supervisors to also attend these OJT conferences, for the purpose of getting their inputs into the system.

The only data available on this point is an impression based upon discussions with work-center superintendents and supervisors at the field-activity locations. After counsulting with the AIR staff personnel who have responsibility for setting up the periodic OJT conferences, the recommendation was made and tried on and experimental basis.

Conclusion	*Recommendation*	*Priority*
(7) Time requirements for proficiency training are not flexible enough to allow "fast burners" to make appropriate progress.	Revise regulations to make it easier for individuals who pass the CDCs and perform well in task evaluations to get upgraded.	LOW

This problem was originally mentioned by a number of MAJCOM OJT staff experts. Trainees often mentioned the problem during the field-activity visits.

Considerable information about this item was collected as part of the OJT Advisory Service Survey. When asked, "What is your 'number-one' complaint about the OJT program?" 82 (5.8%) of the supervisors and 54 (4%) of the trainees made a response that was in agreement with the above conclusion. When asked, "How much time should be required for upgrading to the skill level?" the subject provoked a wide range of estimates that averaged about seven months. The trainees (who are perhaps not really qualified to answer this question) gave answers ranging from 0 to 30 months. (When supervisors were asked how much time should be required for upgrading to the 5-level, there was a similarly wide range of estimates averaging 7.8 months.) When asked to justify their time estimate, 13.1% of the trainees made the response "a person should be upgraded as soon as he is qualified."

The various occupational specialties in the Air Force differ a great deal as regards training requirements and finding recruits, who have already learned how to do certain types of work. This is another reason for suggesting flexibility in the time requirements.

Conclusion	*Recommendation*	*Priority*
(8) The complaints about the assignment system and the procedures for changing specialties seem to be more serious than the complaints about the OJT program.	Design two problem-diagnosis, policy-oriented questionnaires; then (a) survey recruits before, and after their assignments to specialties, and (b) survey those requesting reassignments before and after reassignments have taken place; modify policies and procedures accordingly.	HIGH

In almost every case when a group of supervisors was asked if trainees with "attitude problems" had been known to create difficulties in his work-center, an affirmative answer was given by at least one person. Further interrogation would usually establish that one of the most important reasons for attitude problems was the Air Force assignment and reassignment system. The trainee who was given his fourth choice (or none of his choices) was less likely to be interested in his training than the one who was given his first or second choice. Similarly, the experienced airman who has been directed to retrain in a specialty other than that of his own choosing was likely to have attitude problems. The problem is complicated because it is difficult to change specialties, once an assignment is made.

Similar comments were made by trainees. Groups of trainees usually had at least one trainee who was very unhappy about his specialty. An indication of the seriousness of this problem was provided by a small quantity of data collected when a questionnaire for trainees was pretested. When the quality of various program characteristics was rated by trainees (25 trainees provided ratings for the most recent version of this particular questionnaire), the assignment and reassignment procedures received the worst ratings. Fifty-two percent of the trainees indicated that the "procedures which trainees can use to change specialties" were either marginally satisfactory or unsatisfactory; 40% of the trainees indicated that the procedures by which trainees were assigned to specialties were either marginal or unsatisfactory. A similar rating for "the technical information in CDCs" (a well documented problem) was only 24%.

The situation is complicated by the fact that the Air Force has established a guaranteed assignment program that should eventually alleviate the problem of initial assignments for those specialties covered by the program. However, the problem is considered so serious that a problem-diagnosis study of the initial assignment system is still recommended. The reassignment procedures would not benefit from the guaranteed assignment program at all, so a problem-diagnosis study in this area definitely seems to be needed.

Conclusion	*Recommendation*	*Priority*
(9) Inspection teams need new procedures that would help them put more emphasis upon results instead of procedural details.	Develop results-oriented inspection procedures by devising ways of predicting the more reliable indices of unit effectiveness (e.g., the number of missions aborted), using various ways of describing and evaluating the OJT program as predictors.	HIGH

The data regarding the problem of inspection methods are presented in connection with Conclusion No. 3, and will not be repeated here. One solution to this problem (see Recommendation No. 3) is to make some of the current procedural requirements voluntary rather than a required. This avoids nuisance value, but does not provide the kind of inspection procedures that are needed. Positive, meaningful, end-result oriented inspection procedures are needed that can be used by inspection teams to evaluate OJT program properly. The ideal approach to studying this area would relate OJT program characteristics to reliable indices of unit effectiveness. Inspection procedures could then be designed based upon those characteristics that really make a difference in actual training effectiveness.

Conclusion	*Recommendation*	*Priority*
(10) Many supervisors prefer closed-book VREs to open-book VREs, because of trainees with motivational problems. The situation is complicated because feedback to trainees regarding performance in VREs is slow because of centralized scoring by ECI.	Evaluate the feasibility of monitored open-book VRE examinations, while making it possible for CBPOs to provide immediate scoring and immediate feedback to trainees (some new scrambled test procedures may need to be devised).	HIGH

Trainees with attitude problems who abuse the course review and open-book VRE examination system (simply copying the answers without trying to do them first by themselves) are often cited as one of the reasons for poor performance in the End-of-Course Examinations. Many supervisors–and some Training NCOs–prefer a closed-book examination system, because they feel more certain that the trainees are actually studying and learning. Some Commands have reacted to such problems by requesting approval from Headquarters, U.S. Air Force to administer closed-book VREs. Closed-book examinations have an important disadvantage, however. Many interesting test questions are possible (using illustrations in the text), if the book is available. Because so many illustrations are accessible when an open-book VRE is used, the VRE is less expensive to prepare, and is of higher quality than a closed-book examination.

A closely related problem is that many training NCOs have expressed concern about the time delays that occur because the VREs are scored in a central location (at the Extension Course Institue, at Gunter AFS, Alabama). ECI needs the information as part of its quality-control program, and would prefer centralization of the data even if the VREs were scored first by field-activity personnel.

Some data concerning part of this problem were obtained with one of the questionnaires being pretested for use with trainees. Twelve of the 25 trainees (48%) who completed that questionnaire indicated that the "time required before VRE results are known" was excessive. A number of comments to this effect also came from OJT personnel.

The need to provide immediate feedback to trainees is desirable, and everyone agrees on this point. There is some concern about the cost effectiveness of scoring all VREs twice (once immediately after the examination, and once at ECI as part of the quality-control program). Most people think that any additional expense that may be involved is more than justified by the training value of more immediate feedback. The authors concur in this opinion. Presumably, ECI would not need a 100% sample in all specialties, which should help minimize the cost problem.

One way to deal with attitude problems and still keep open-book VREs (with resultant economies in test development costs) is to develop a system of monitored open-book examinations. This suggestion was proposed by a staff expert at ECI as a possible compromise between closed-book and open-book examination systems. However, a certain amount of developmental work and field-testing would be needed before any alternative system could be adopted, and the idea remains a controversial one.

Conclusion	*Recommendation*	*Priority*
(11) There is poor coordination between CDCs and job proficiency training. Some end-of-course and SKT examinations require that the trainees learn about specific items of equipment that are not available (hence of little interest) to the trainee.	Design and evaluate a new SKT examination system in which equipment is kept out of the basic SKT examination, and successful completion of a minimum number of pass-fail equipment-knowledge, or duty position tests (e.g., 3 out of 10) is required. Evaluate the feasibility of designing the equipment knowledge and duty-position tests in a modular fashion so that one test supplement can be used in assembling tests for several different specialties. If the examination system is successful, redesign the CDCs accordingly. Establish a CDC supplement system and let supervisors and trainees select supplements that meet their needs.	HIGH

Poor coordination between CDCs and proficiency training is, to some extent, implicit in the dual-channel OJT system. The CDC is concerned with general knowledge in the specialty; proficiency training is concerned with those specific tasks that are selected for training. There are, however, many specific complaints that go beyond these. A frequent complaint from trainees is that they are required to study certain equipment (used in the CDC as an illustration of some general principle) when that equipment does not even exist in their work center.

Theoretically, CDCs are supposed to be equipment-free -hence the problem of equipment coordination should not exist. In fact, it is almost impossible to write a completely equipment-free CDC volume in many specialties. Hence, the problem.

Some data regarding the coordination problem are available in the OJT Advisory Service Survey. One hundred fourteen supervisors (9.1% of the sample) made comments such as "CDCs are not applicable to the job environment." When asked what could be done to improve the OJT program, 84 (6.3%) of the supervisors and 119 (9.5%) of the trainees made comments such as "Provide OJT training in the particular area to which the trainee will be assigned." Another item of interest is that 106 trainees (11.1%), who were asked why they were critical of the Air Force OJT program, gave the answer: "Poor applicability of OJT training to actual job involvement." A modular system based upon CDC supplements would seem to be a good tool and a big step toward solving this problem.

It is not possible to talk about modularizing CDCs without also talking about the Air Force promotion system. In addition to their use in upgrade training, CDCs are also used as study materials for the WAPS program. This is the program by which airmen are promoted. The WAPS program examination is called the specialty knowledge test (SKT). One probably could not optimally redesign the CDCs into course modules without restructuring the SKTs in some similar fashion. In fact, the SKTs probably should be modularized first, because if it does not work for SKTs, the modularizing of the CDCs would never become very popular.

Conclusion	*Recommendation*	*Priority*
(12) Tech School and CDC subject-matter scheduling practices do not correspond closely enough with those points in time that the trainees need and want the information.	Evaluate the feasibility of putting more reliance upon event-scheduled FTDs as an incremental part of an overall Tech-School-CDC-FTD system.	HIGH

As mentioned in the discussion of Conclusion No. 11, a coordination problem between CDCs and proficiency training is to some extent implicit in the dual-channel OJT system. One way of providing improved coordination within the system is to modularize the CDCs, as recommended in Conclusion No. 11, and let supervisors select appropriate materials. This same principle can be extended to other programs outside the OJT system. The OJT system is only one part of the overall Air Force training system. If a well time FTD course provides better training at the time that the trainee is motivated to learn it, such courses should be considered.

The evidence regarding the need for improved coordination was discussed in Conclusion No. 11, and will not be repeated here. One more bit of evidence shows that 4.4% of the supervisors and 3.0% of the trainees answered a question about ways of improving the OJT program with comments such as "Put more emphasis on FTDs, and less on CDCs."

Conclusion	*Recommendation*	*Priority*
(13) Some trainees who complete proficiency training have not received training in an adequate number of tasks.	Conduct research leading to an operational definition of "an adequate number of tasks," in part based upon occupational survey data, and, in part, upon career progression needs. Then evaluate the desirability of permitting committees of NCOs to recommend (and staff experts to approve) a requirement for training in some minimum number of selected tasks (e.g., 3 out of 10) that would be listed on the first page of the STS.	HIGH

The situational condition ratings by the 77 supervisors in the field-site sample provided information relevant for this conclusion. Thirty-three percent of these supervisors indicated that the "Training opportunity—variety of and opportunity for task performance" was a "grave" or "major" problem that interfered with their capability to provide an effective OJT program.

Some evidence is also provided by the OJT Advisory Service Survey, in that 2.2% of the supervisors and 3.3% of the trainees answered the question, "What is your 'number one' complaint about the OJT system?" with answers such as "The training is basically confined to one aspect of the AFS and is not generalizable to other job tasks and equipment (e.g., 'not being able to work with all the equipment')."

This recommendation is an important one, since it is essentially a compromise between the OJT system that the Air Force used to have (in which all tasks were required) and the dual-channel system that it now has (where having learned a single task can be adequate justification for upgrading, if that is all that is locally available). Supervisors with whom this idea was discussed were generally in favor of it. The idea is also justified by the literature review.

Conclusion	*Recommendation*	*Priority*
(14) Supervisors in many specialties either duplicate effort by designing a variety of task-evaluation procedures to assess progress in proficiency training, or (as is more likely) simply do not design special task-evaluation procedures at all.	Conduct research leading to a set of criteria for deciding when task-evaluation procedures should be required. Selectively drop or emphasize task-evaluation procedures in selected specialties. For those areas in which task-evaluation procedures are to be emphasized (e.g., rescue, medical teams, building trades), require that task-evaluation documents be included in the training record, and provide specific task-performance checklists and rating scales to assist the supervisor in doing so. Design and evaluate alternative procedures for those specialties for which task evaluations are not to be required.	HIGH

Task evaluation procedures outside of maintenance specialties tend to consist of informal, unstructured, unscheduled observations. For some specialties, this seems to be satisfactory. For other specialties, something more objective and structured is desirable. The problem is to decide which nonmaintenance specialties need to be evaluated in a more formal structured way and which do not.

There is some evidence of supervisory concern in this area, suggesting that more—rather than fewer—task evaluations are needed im most cases. When the 77 supervisors who were contacted during the field survey rated "proficiency evaluation procedures," 24% indicated that they were "inadequate," and 21% indicated that they considered proficiency evaluation procedures to be a "grave" or "major" problem.

Conclusion	*Recommendation*	*Priority*
(15) CDC packages have been made extremely comprehensive because of their use of WAPS packages. Upgrade trainees in certain specialties complain that there is an unnecessary reinforcement of knowledge by CDCs.	Evaluate the feasibility of authorizing duplicative review materials in WAPS packages, but restricitng the number of duplicative materials in CDC packages to be used for upgrade training.	MEDIUM

This is one problem that varies dramatically from specialty to specialty. Some CDCs are highly regarded and show little duplication with Tech School; others show an undesirable duplication. When trainees in the OJT Advisory Service Survey were asked "How do the contents of your CDC compare to your Tech School materials," 50.2% said that they were essentially the same. The overlap is not serious, since only 1.1% of the supervisors and 2.9% of the trainees complained about "unnecessary knowledge overlap with Tech School" when they were asked to describe their "number one" complaint about the OJT program.

The decision to use CDCs as review material for the WAPS program is likely to result in even more overlap, unless two different packages (a CDC package and a WAPS package) are prepared, as suggested above.

Conclusion	*Recommendation*	*Priority*
(16) The 5-level CDC End-of-Course Examinations in certain specialties seem to duplicate exams given in Tech School.	Analyze the ability of Tech School grads in selected specialties to pass 5-level CDCs upon leaving Tech School. If the data justify the policy, administer CDC exams regularly either at Tech School or at the new duty station, and waive CDC requirements for those who pass. *(This was field-tested during Phase II of this project.)*	HIGH

Some data regarding duplication between CDCs and Tech School are reviewed in Conclusion No. 15, and will not be repeated here.

Some OJT Advisory Service Survey contains useful information about the degree of duplication. When a high percentage of trainees in a particular specialty say that CDCs and Tech School are essentially the same, that specialty should be selected for further study because there might be undesirable duplication between the CDCs and Tech School. This idea was field-tested and the results indicated that the problem was not as great as many had supposed, and that degree of duplication varied widely across specialties.

Conclusion	*Recommendation*	*Priority*
(17) Because of the emphasis on written tests and the norm-referenced (rather than criterion-referenced) approach to test scoring, many of those upgraded get their skill level increases because of their verbal intelligence and their ability to memorize, rather than their knowledge of what is really needed to do the job.	Use performance ratings data from a task-criterion study to analyze the relationship between CDC scores, SKT scores, intelligence, ability to memorize, and task-performance ratings on the job. Establish clearcut ground rules regarding the conditions under which verbal tests of knowledge should or should not be permitted.	HIGH

The major basis for this recommendation is the literature on testing and criterion measures. There were also a number of comments from supervisors objecting to the use of written or verbal tests as a way of evaluating a trainee's ability to perform. Several case histories were cited, for example, in which the trainee (not being verbal) would repeatedly fail the CDC examination; but, he would perform in a completely satisfactory fashion on the job.

Conclusion	*Recommendation*	*Priority*
(18) Many trainee counseling sessions are either not held at all (in spite of pencil whipped records), or they are not very meaningful when they are held.	Compare the present approach with a two-column temporary form for counseling sessions in which trainees indicate what they would like to learn, and the supervisors respond in writing. *(While this specific procedure has not been adopted other attempts to improve counseling have been made.)*	MEDIUM

The tendency to de-emphasize trainee counseling was mentioned by a number of persons during the field-activity visits. CBPO OJT staffs complained that the counseling sessions were often not held or that records were not kept if the sessions were held. Trainees complained of just being told to initial a form saying that they had been counseled without any counseling taking place. Trainees rightly considered such counseling to be a farce—and the fact that records can be kept on something that is not taking place is considered additional proof to some trainees that the OJT program is one big papermill.

Some evidence to support this conclusion was collected as part of the OJT Advisory Service Survey. When asked about ways of improving the OJT program, 16.4% of the supervisors and 10.4% of the trainees made comments such as "Improve the quality of the trainee-trainer interaction and increase trainer involvement" (e.g., "supervisors don't care" or "trainees don't care").

The trainee to supervisor written record of a counseling session would guarantee that the trainees who want to make a point (e.g., an interest in learning more tasks) would be given an opportunity to do so. Based upon such personalized comments to supervisors, meaningful counseling is much more likely to take place.

Conclusion	*Recommendation*	*Priority*
(19) There is too much emphasis on record-keeping procedures. Part of the problem is that the consolidated record form seems to need revision.	Conduct a survey to determine what types of information are actually needed and used. Then de-emphasize record-keeping procedures and restructure the AF Form 623 accordingly. *(Implemented by design of a new simplified Form 623, which was made operational in the August 1974 revision of AFM 50-23.)*	HIGH

Relevant data were collected as part of the OJT Advisory Service Survey. When asked "What is your opinion of the Air Force Form 623?" 61.2% of the supervisors thought that the form should be revised and simplified. When asked what their "number-one" complaint about the OJT program was, 18% of the supervisors said that there was "too much emphasis on paperwork and documentation."

The exact nature of the improvements to be made are not so clear cut as one might think, however. Some supervisors (11.6%) thought that the AF Form 623 was too complicated in terms of required documentation and should be condensed. Other supervisors (9.6%) thought that the AF Form 623 was not sufficiently detailed or comprehensive. In any event, it appeared that a new form more specifically geared to current OJT requirements would be highly desirable, and as noted above such a form has now been adopted.

Conclusion	*Recommendation*	*Priority*
(20) Training records for E6s, and above, are apparently not needed (and are not kept properly) in nonmaintenance specialties, unless people are in upgrade training or retraining.	Drop requirement to keep records in terms of STS categories for people in nonmaintenance specialties, who are not in upgrade training or retraining; evaluate the feasibility of requiring career planning sessions as an alternative.	MEDIUM

Some CBPOs were not enforcing the requirement to keep records for E6s and above in nonmaintenance specialties. There is little motivation to do so, since the E6 already has the skill level he needs for his next promotion. Some of the Training NCOs considered detailed record-keeping for people at this level to be a waste of time. (There are, of course, certain specialties of a highly technical nature where such records are very meaningful and important.) Part of the problem is that senior NCOs tend to become supervisors of problem solvers with broad responsibilities rather than task-performers—so many of the JPG categories no longer fit them very well.

The literature suggests that another approach involving management-by-objectives conferences directed toward developmental duty assignments that would provide certain kinds of experience and future training and development objectives might be preferable for people at this level.

Conclusion	*Recommendation*	*Priority*
(21) Some commanders are not kept well informed about which OJT programs are doing well, because the written communication channels are too formal and too serious.	Evaluate the feasibility of requiring brief five-minute presentations by a training NCO from the CBPO OJT staff during monthly Wing/Group staff meetings. Compare OJT programs of commands that do something like this with commands that do not. Then conduct a longitudinal study (before and after) of the effects of implementing such a policy.	MEDIUM

There are no quantitative data to support this conclusion, since it evolved as a result of discussions with CBPO OJT staffs. The objective of these discussions was to find some way of providing incentives for supervisor-trainers who do a good job. Several award systems were discussed, but they seemed to create more problems than they solved (e.g., increased pencil whipping), so they were dropped. When one establishes paper-work criteria for a "good" system, a variety of undesirable consequences inevitably seem to occur.

The one incentive that consistently seemed to have merit, however, was what the squadron or unit commander thought about the program. The ideal incentive seemed to be a pat on the back or a frown from this one individual. A number of CBPO OJT staffs were convinced that squadron commanders were not as well informed about the strong and weak points in their OJT program as they should be. Part of the problem is that communications to the commander were too formal and too serious.

Some field-test work needs to be done to determine if this is indeed the case, and to experiment with new ways of keeping the unit commander informed.

Conclusion	*Recommendation*	*Priority*
(22) The most serious attitude and motivation problems seem to involve trainees who think they have been misassigned to unpopular specialties.	Evaluate the feasibility of specialty-oriented recruiting efforts to find people who prefer unpopular specialties.	MEDIUM

The data suggesting that trainees are unhappy with assignment procedures have been described in Conclusion No. 8, and the information will not be repeated here. It is noted, however, that specialty-oriented recruiting efforts have been used with great success by the Army.

Conclusion	*Recommendation*	*Priority*
(23) "Gripes" of individual trainees about their own training are often not communicated to CBPO staff experts so that the CBPO can avoid such problems in the future.	Evaluate the desirability of requiring that each CBPO OJT staff annually conduct approximately 100 anonymous interviews or questionnaire surveys with trainees who have recently completed upgrade training at their base	LOW

In discussions with trainees, it was discovered that there were some things about the OJT program that were not being communicated to the CBPO OJT staff. The "make-believe" counseling sessions, for

example, that were well documented on paper but nonexistent, in fact, were items that trainees would not normally describe to the CBPO OJT staff. Part of the problem is that the trainee could get himself in trouble with his supervisor if he became an informer.

Industry has a program that seems relevant, called the "exit interview." According to such a program, personnel who leave the organization are more likely to feel free to describe weaknesses and organizational problems than they would ordinarily—so many industrial firms make a practice of interviewing each such person before he goes. A similar program—based upon interviews with trainees who have recently completed upgrade training—seemed worthy of investigation.

With this in mind, a structured interview form was developed with the aid of trainees at field-activity locations. Many trainees answered the questions in writing before criticizing the current version of these questions. The last question asked the trainee if he thought that such interviews on surveys of a sample of trainees who had completed upgrade training was a good idea. Out of 23 trainees responding to the final version of this question, 19 said yes.

Conclusion	*Recommendation*	*Priority*
(24) Remedial reading programs usually involve the stigma of being a "dumdum," and do not emphasize Air Force job vocabulary or job reading skills.	Design and evaluate a number of remedial reading programs for Air Force use. Each separate program would emphasize Air Force job reading skills in a broad career area, in addition to providing needed reading instruction. *(Such job-oriented reading programs are currently being developed and field-tested under HQ USAF RPR 74-13.)*	HIGH

Many different ways of handling trainees with remedial reading problems were discussed. The concensus was that the problem should not exist in the first place, because either such people should not be enlisted or if enlisted they should be given reading training before being sent to the field.

Some data as regards the severity of this problem were collected as part of the situational condition ratings. The number of trainees needing remedial reading programs was deemed "excessive" by 30% of the 77 supervisors for whom final data were available. Only 16% of them considered this to be a "grave" or "major" problem, however.

Conclusion	*Recommendation*	*Priority*
(25) Decisions to classify recruits and retrainees as DDAs do not give adequate consideration to the needs of the individual or to the economics of the component subject-matter training modules.	Reformulate resident school training plans for Category B specialties in a modular fashion so that each individual could conceivably be scheduled for a different mix of OJT and resident school training, depending upon his needs and the economics of the situation with respect to the various training modules. Evaluate the new procedures on an experimental basis at one selected Tech School location by comparing graduates of the new system with graduates of the old system.	LOW

The way in which the Air Force makes decisions about trade-offs between resident school training and OJT is important, and special efforts were made to confer with supervisors and trainees in specialties for which training could be provided either way (Category B specialties, as they are called). A questionnaire was also designed to collect information from supervisors who have experience with such specialties.

The focus of the original questions was on the relative effectiveness of DDA and resident school graduates; that is, our questions were oriented toward only two alternatives. From this restricted point of view, the number of DDAs did seem to be a problem in some work centers. (During the field-activity visits, 21% of the previously mentioned sample of 77 supervisors indicated that the number of DDAs was excessive; 20% considered this to be a "grave" or "major" problem.) There were some supervisors, on the other hand, who actually preferred DDAs to Tech School graduates.

After the problem of DDAs had been discussed with many supervisors, it became apparent that the right questions were not being asked. The Air Force need not be restricted to one of two extremes. It is possible to establish a modular approach (similar to that used by the National Aeronautics and Space Administration), in which each individual may be scheduled for a different mix of resident school and OJT, depending upon his needs—and it is recommended that the feasibility of such an approach be determined. If the Air Force were to adopt such a flexible and individualized approach, the question of which of the current extremes is more cost effective almost becomes irrelevant.

Conclusion	*Recommendation*	*Priority*
(26) CBPOs and MAJCOMs do not give enough recognition to the fact that some work centers have unusally difficult work-loads.	Each CBPO should annually collect and publish (base level only) statistics regarding the extent to which each item on a standardized list is thought to interfere with the Base's capability of providing an outstanding program. MAJCOMs would use the information on a "management-by-exception" basis only.	LOW

Many situational conditions can act as contributing factors in accounting for the poor performance of an OJT program. Other conditions can act as unearned contributions to the quality of a successful program. Some of these situational conditions, moreover, may not be under the control of those in the work center that are responsible for the OJT program.

With these things in mind, a procedure was developed by which situational conditions and problems of various kinds could be rated with respect to their impact upon the OJT program at a particular work-center location. The procedure is described in an OJT Program Evaluation Guide developed during the second Phase of this project.

The information as regards the CBPOs not giving enough attention to unusually difficult training situations was inferred from comments made by several work-center superintendents who had unusual problems that affected their OJT programs. These comments were usually volunteered during the initial discussion periods with work-center superintendents, and were not recorded as quantitative data.

The situational condition ratings collected during the field-activity visits are described in Tables 7 and 8 of this report, which illustrate the type of information concerning standardized items that such an approach can provide.

Conclusion	*Recommendation*	*Priority*
(27) SKT results are not being used as a way of motivating people to learn the specific things that they need to learn.	Report SKT results by subject-matter areas so that personnel can identify their strong and weak points.	LOW

The fact that SKT results are not reported by subject-matter area is a matter of Air Force policy, and need not be justified by data or opinion. It seems to the authors, however, that a breakdown by subject-matter area (which has been quite successful in the Army) has much merit and should be considered.

Conclusion	*Recommendation*	*Priority*
(28) The "different" skill levels for some specialties are not really different, which makes CDC examinations, proficiency tests, and upgrade procedures somewhat meaningless.	Validate skill-level categorizations in terms of tailor-made job-evaluation procedures, and develop an objective formula for skill-level classification purposes; then evaluate the feasibility of new career-progression plans for specialties that are not found to have significant differences between skill levels.	LOW

Comments from some of the work-center superintendents and Training NCOs indicated that the skill levels for some specialties were not really different. Trainees had similar comments on the grounds that there was duplication in the material that they were asked to learn when they advanced from one CDC level to another.

There are no data indicating that this is a serious problem other than the comments made by some supervisors and trainees. What makes it a problem, in the opinion of the researchers, is that if the condition exists at all, it does make a farce out of the record-keeping practices associated with CDCs and JPGs rather meaningless. There is already enough criticism of the record-keeping procedures and requirements without adding to the problem by permitting records of separate and successive training programs to be kept when there are not significant differnces between them.

Conclusion	*Recommendation*	*Priority*
(29) Tech Orders and CDCs are written above the reading level of many of those assigned to certain specialties.	Conduct studies of reading level requirements in specific career fields, using computerized reading level evaluation procedures; require simplification of Tech Orders and CDCs that are written above the reading level of those assigned. If this is not practical, raise the reading-level requirements for those specialties involved. *(A reading requirements procedure has been developed and implemented for Air Force technical writers. Additional procedures are under consideration.)*	MEDIUM

The evidence regarding the extent to which inadequate reading skills are a problem was reviewed in Conclusion No. 24, and will not be repeated here. The suggested use of computerized reading-level evaluation procedures to devise recommended reading requirements is based upon the literature review.

Conclusion	*Recommendation*	*Priority*
(30) There seems to be unnecessary duplication in the examination and record-keeping procedures that are required for skill-level upgrading and promotion.	Consider the possibility of establishing one, single, general examination that would be used for promotion purposes, and replace the general skill-level system with a system in which more specific skill-level determinations can be established.	LOW

The evidence supporting a modular training approach is reviewed in the discussion of recommendation 11, 12, 25, and 27 and is not repeated here. A great deal of paperwork would be avoided by doing away with the skill level progression system as a separate entity. Moreover, the Air Force would not find itself developing two completely different tests of general knowledge for every single specialty. Instead, it would be possible to retain one (and only one) *general* knowledge testing system (to be used for promotion purposes), and retain and expand the existing *specific* proficiency qualification/certification system for evaluating skill level knowledge. The specific qualification evaluation system would be equivalent to an improved and more flexible version of the Job Proficiency Guide, in the sense that many other ways of obtaining specific job knowledge (FTDs, attendance at modularized resident school training programs, transfer to another unit) could be considered. The general CDCs would remain a part of the promotion examination system–which, indeed, they already are. Proposed modularized CDC supplements in recommendation No. 11 could then become part of the special skill qualification examination system.

Discussion

Specific recommendations indicating how a problem could be solved or how a program could be implemented have been provided at the request of Headquarters, U.S. Air Force. It is realized that this involves going beyond the data. Moreover, even if all the recommendations were good in the sense that they would benefit the OJT program, it does not follow that they could all be implemented. The OJT program is an unusual one, in that it impinges on a large number of different personnel and manpower policy areas and related programs. It is not always feasible to optimize the OJT system at the expense of these other important areas; so the recommendations in this report must stand the test of review by many different staff experts before implementation field-testing. In spite of these considerations, however, it was agreed that all the recommendations would be presented in this report. All have been reviewed by HQ USAF and other appropriate staff offices, and as indicated above, a number of the recommendations have already been

implemented. Others are still under consideration or awaiting the results of field-tests. Because of the complexity of the OJT system and its impact on other areas, some of the more extensive recommendations may not prove feasible for adoption. However, those that have already been accepted have made this effort worthwhile. The reader is also advised to read the literature review report (Stephenson & Burkett, 1974) where various additional "innovations" in OJT are presented with their rationales, resource requirements, possible methods of implementation, and potential effects on the Air Force system.

Finally, it should be noted that this analysis indicated that Air Force OJT is a generally successful, rapidly adaptive program with which most people seem to be satisfied. Many of the problem areas identified are the result of the size of the OJT effort and the impact of other portions of the Air Force personnel and training system on the OJT process. In spite of its success, however, in any program affecting so many personnel there is always potential for increased effectiveness and innovation. Accordingly, the overall goal of this analysis has been to attempt to stimulate such program innovations, and to provide an information base for use in further evaluating and strengthening the Air Force OJT system.

REFERNCES

Air Force Manual 39-1. *Enlisted personnel: Airman classification manual.* Department of the Air Force, Washington, DC, 29 December 1969.

Air Force Manual 50-23. *Training: On-the-job training.* Department of the Air Force, Washington, DC, 15 August 1974.

Air Force Manual 66-1 Volumes I-X. *Equipment maintenance: Maintenance management.* Department of the Air Force, Washington, DC, 1 May 1974.

Army Regulation 350-1. *Training: Army training.* Deparmtment of the Army, Washington, DC, 29 October 1973.

Army Regulation 351-20. *Schools: Army correspondence course program.* Department of the Army, Washington, DC, 18 May 1973.

Army Regulation 611-201. *Enlisted career management fields and military occupational specialties.* Department of the Army, Washington, DC, 10 October 1973.

Air Training Command Advisory Board. *Eighth report of the Air Training Command Advisory Board.* Randolph AFB, TX: 20 October 1962.

CM 72-1. *Weighted airman promotion system.* Brochure produced by the Directorate of Advertising, Department of the Air Force, USAF Recruiting Service, 1971.

Extension Course Institute, Air University. *Briefing Supplement.* Gunter AFS, Montgomery, Alabama, June 1973.

Field Manual 21-6. Chapter 12, Evaluation, in *Techniques of Military Instruction.* Department of the Army, Headquarters, Washington, DC, 20 January 1967.

MCO P2500.32. *Marine Corps entry-level skill qualification training (ground).* U.S. Marine Corps, Washington, DC, 13 June 1972.

NAVEDTRA 10052V. *Bibliography for advancement.* Department of the Navy, Washington, DC, March 1974.

NAVPERS 1414/1 (Formerly NavPers 760). *Record of practical factors.* Department of the Navy, Bureau of Naval Personnel, Washington, DC. (updated annually).

NAVPERS 18068C. *Manual of qualifications for advancement in rating.* Department of the Navy, Bureau of Naval Personnel, Washington, DC, June 1971.

NAVPERS 93510-1, Appendix II. *Fundamentals of Navy curriculum planning.* Department of the Navy, Bureau of Navy Personnel, Washington, DC, October 1968.

Nav-Pers-0, Number 611. Navy Educational Opportunities for Enlisted Men and Officers. *All hands.* Department of the Navy, The Bureau of Naval Personnel Career Publications, December 1967, pp 32–35.

OPNAV 37 & 56P2A. *Glossary of Navy training terminology.* Department of the Navy, Office of the Chief of Naval Operations, Washington, DC, October 1969.

Steinmetz, C.S. The Evolution of Training. In R.L. Craig and L.R. Bittel (Eds.), *Training and development handbook*. New York: McGraw-Hill Book Co., 1967.

Stephenson, R.W., & Burkett, J.R. *An action oriented review of the on-the-job training literature*, AFHRL-TR-74-66, AD-A011 620. Lowry AFB, CO: Technical Training Division, Air Force Human Resources Laboratory, December 1974.

TRADOC Reg 350-1 Anx F. *On-the-job training (OJT) in units.* Department of the Army, Headquarters, U.S. Army Training and Doctrine Command, Washington, DC, 20 August 1973.

Explanation of Terms

Air Force Specialty (AFS). A grouping of positions which require common qualifications. An AFS is identified by a title and a code.

Air Force Specialty Code (AFSC). A combination of meaningful digits used to identify an AFS.

Air Force Specialty Description. A description of an AFS which includes the title, code, summary, duties, qualifications, and other specialty data and shredouts, as appropriate.

Air Force Specialty Prefix. An identification, by means of a title and alphabetical designator, of an ability, skill, special qualifications, or system designator not restricted to a single AFS.

Air Force Specialty Shredout. An identification of part of an AFS by means of a title and alphabetical suffix to the appropriate AFSC to designate specific equipment or functions embraced in an AFS.

Air Reserve Forces (ARF). The personnel assigned to units of the Air National Guard (ANG) and Air Force Reserve (AFRES) and individuals assigned as mobilization augmentees (MA) to regular Air Force units.

Apprentice Knowledge Test (AKT). A comprehensive multiple choice written test designed to measure technical knowledge in semiskilled AFSs.

Bypassed Specialist. A person who has been awarded the semiskilled level of an AFSC based on prior civilian or military occupational experience or schooling.

Career Area. A group of utilization fields that are broadly related on the basis of required skills and knowledges.

Career Development. The process of skill and knowledge upgrading occurring as a result of job experience, OJT, attendance in formal courses, and completion of ECI courses, CDCs, USAFI course, etc.

Career Development Course. A correspondence type course, designed to satisfy the requirements for knowledge applicable to the AFS.

Career Field. A grouping of related airman AFSs involving basically similar knowledges and skills. It includes career field subdivisions and ladders.

Career Field Ladder. A vertical arrangement of AFSs on a career field chart within or comprising a career field or a career field subdivision to indicate skill, distinction, and progression.

Career Field Subdivision. A division of a career field in which closely related AFSs are arranged in one or more ladders to indicate lateral functional relationship, emerging at the advanced (7) or superintendent (9) skill level.

Career Knowledge Training. That part of career development intended to result in the acquisition of the general knowledge of basic principles and theories related to a career area.

Code Key. An alpha and/or numeric symbol, composed of numbers, and lower or upper case letters, used to describe the minimal skill/knowledge requirements for an AFS. A proficiency code key is included in attachment 1 of each STS.

Concept. (1) A generalized idea of something. (2) An abstract thought or phenomenon grasped by the mind.

Control Air Force Specialty Code (CAFSC). A code established to effect airman assignments and to assist in the identification and control of training requirements. The CAFSC is a management tool to control individual airman assignments and the equitable distribution of airmen by grade and skill against manning requirements.

Course Examination (CE). A written test used as the final examination for a CDC.

Course Training Standard. An ATC course control document that describes the training to be conducted in a course of instruction in terms of tasks/knowledges and proficiency level.

Directed Duty Assignee. Basic trainees or technical training eliminees assigned to major commands for "on-the-job" training positions.

Duty. A large segment of the work done by an individual. The italicized paragraph headings in the duties and responsibilities section of the specialty descriptions in AFM 39-1 set forth the major duties performed in each AFSC.

Duty Air Force Specialty Code (DAFSC). The authorized manning document AFSC which identifies the position to which an individual has been officially assigned.

Extension Course Institute (ECI). The subordinate organization to Air University (AU), a major command, responsible for publication and administration of most CDCs.

First Term Airmen. For active duty airmen, this means the initial enlistment; for ANG/AFRES, it applies to an individual who has not completed his military service obligation.

Job Knowledge Training. Specific knowledge applicable to an airman's position assignment.

Job Proficiency Guide (JPG). An STS, annotated to show tasks, knowledges, and study references applicable to a position of an AFS, and to show those tasks assigned and certified complete. The JPG may include AF Forms 797 and 1098.

Job Proficiency Training. Training on performance of those items indicated as assigned on a JPG. Training toward qualification for a position of an AFS. Satisfies "demonstration of proficiency" requirement for upgrading.

Lateral Training. Training in an AFS for which the designated input is from another AFS.

Mobilization Augmentee (MA). A ready reserve member assigned to a regular Air Force unit against an individual manpower augmentee authorization established to support the period immediately following a declaration of war or national emergency or to respond to any situation that national security requires.

On-the-Job Training (OJT). A planned training program designed to qualify airmen, through self-study and supervised instruction, to perform in a given AFS while actually working in a duty assignment of their AFS.

PDS Code. A three-character alphanumeric code used in the Personnel Data System to record attendance at Training Courses. The PDS Code, an integral part of course identification information, must be included in special orders, certificates of completion and other places in which course identification is required. The complete list of PDS Codes is contained in AFM 300-4, Volume II. AFM 50-5, *USAF Formal Schools Catalog* specifies the PDS code for each course listed.

Performance. (1) Application of principles and skills learned to the solution of a problem or actual accomplishment of a job. (2) A practice or tryout experience in which a student is developing skills and applying principles by using specific skills and tasks under controlled conditions. (3) Actual accomplishment as distinguished from potential ability, capacity, or aptitude.

Performance Method. A method of instruction which provides the student with opportunity to develop and apply, under controlled conditions and close supervision, the skills or principles which have been explained and demonstrated.

Performance Test. A measurement of a student's ability to perform operations and processes involved in a job.

Position. The duties and tasks established as the work requirement for one individual. A position exists whether occupied or vacant.

Primary Air Force Specialty Code (PAFSC). The awarded specialty in which the individual pos-

sesses the highest skill level. If the individual possesses more than one AFSC at the highest level, the AFSC in which he is most qualified to perform duty is designated as primary.

Program Technical Training (PTT). The mission directive for accomplishing military and technical training.

Qualification Training. A program of OJT designed to develop more knowledge and skill within an airman's assigned position, during the time he is not on UGT, and not resulting in award of an AFSC.

Review Training. (Formerly Remedial Training). Training provided to repeat phases or areas of study not satisfactorily completed during a previous training activity or process.

Retraining. A training program designed to qualify an airman for award of an AFS or AFS shredout not in the normal progression pattern of a currently awarded AFS.

Secondary Air Force Specialty Code (2AFSC). The awarded specialty representing the individual's second best qualification. *Exception:* In those instances where an airman possesses an imbalanced specialty that is not identified as a primary, it is reflected as a secondary.

Skill Level. The level of qualification in an AFS depicted by the fourth digit in the AFSC as follows:

1—Helper Level
3—Semiskilled Level (Apprentice)
5—Skilled Level (Journeyman)
7—Advanced Level (Supervisor Technician)
9—Superintendent Level

Specialty Training Standard (STS). A Department of Air Force publication which describes an Air Force specialty in terms of tasks and knowledges which airmen in that specialty are required to perform or to know on the job. It indicates the level of skill or knowledge which the trainee must attain at each skill level. It indicates the extent to which ATC airmen courses provide training on each of the listed knowledges and tasks.

Study References (SRs). Documents relative to specific AFSs recommended for study to satisfy the knowledge requirements for upgrading. STSs provide related SRs.

Study Reference Guide (SRG). A document provided CDC trainees listing documents related to specific AFSs recommended for study.

Supervisor. The trainee's (OJT) reporting official. The terms "supervisor," "immediate supervisor," and "reporting official," as used in this manual, are synonymous.

Task. A unit of work activity which forms a significant part of a duty. Task statements may be found under duties listed in AFM 39-1 and on STSs and JPGs.

Task Breakdown. A detailed procedural instruction for performing a specific task, providing important steps and key points.

Training Capability. The capacity of a unit to administer upgrade training. Training capability is always determined as pertinent or applicable to particular AFSs.

Training Priority Category. A phase used to describe an AFS in terms of the complexity of its knowledge requirements. It also specifies the method(s) in which training to the 3-skill level is accomplished. There are 3 training priority categories used by the PTT to describe each AFS —A, B, and C. These symbols are explained as follows:

- Training Priority Category A. Most of the airmen assigned in this category receive their 3-skill level AFSC as a result of satisfactory completion of a formal basic course.
- Training Priority Category B. Some of the airmen assigned in this category receive their 3-skill level AFSC as a result of satisfactory completion of a formal basic course. Most of the remainder of the airmen receive their 3-skill level AFSC through OJT.
- Training Priority Category C. Most of the airmen assigned in this category receive their 3-skill level AFSC through OJT.

Training Standard. See **Course Training Standard** and **Specialty Training Standard.**

Training Status Cod alphabet character (A, B, C, etc.) used t a training situation or condition. (See AFM 50-23).

Training to AFSC. That AFSC to which the airman is entered for upgrade training/retraining.

Upgrade Training (UGT). Training administered for the purpose of upgrading in skill level, as distinguished from training not intended to result in upgrading in AFSC skill level, such as qualification training.

Volume Review Exercise (VRE). An open book, multiple choice, exercise that is designed to teach through active response, reinforcement, and feedback.

Written Test. A paper and pencil test in which the student answers a series of questions, such as multiple-choice, matching, and completion.

APPENDIX A: SAMPLE AIR FORCE FORMS

I. IDENTIFICATION DATA					
LAST NAME–FIRST NAME–MIDDLE INITIAL		PAFSC	DATE ENTERED TRAINING	GENERAL AQE SCORE	DATE FOR SUPERVISORY EVAL
		DAFSC			DATE FOR COMDR EVAL
GRADE	SSAN	TNG TO AFSC	ESTIMATED TNG COMP DATE		MAXIMUM TRAINING DATE

ON–THE–JOB TRAINING RECORD

II. ORENTATION AND CERTIFICATION	
IMMEDIATE SUPERVISOR (GRADE AND NAME)	BRIEFS YOU ON SECTION TRAINING PROGRAM AND EXPLAINS THE FOLLOWING a. YOUR AFS DESCRIPTION. AFM 39–1 b. TRAINING REQUIREMENTS. AFM 50–23 and JPG c. UPGRADING AND PROMOTION. AFR 39–29 d. APPRENTICE KNOWLEDGE TEST (AKT) PROCEC PROCEDURES. AFM 35–1 e. PROFICIENCY TRAINING AFM 50–23 f. EXPLAINS USE OF AF FORM 623. STS AND JPG. AFM 50–23 g. CERTIFIES COMPLETION OF JPG TASK ITEMS. AFM 50–23
TRAINEE SIGNATURE	I CERTIFY THAT THE ACTIONS LISTED ABOVE HAVE BEEN ACCOMPLISHED AND THAT I UNDERSTAND MY INDIVIDUAL RESPONSIBILITIES FOR CAREER PROGRESSION. AS ESTABLISHED IN AFM 50–23.
SIGNATURE AND TITLE OF CERTIFYING OFFICIAL	I CERTIFY THAT THIS AF FORM 623 IS A COPY OF PERTINENT DATA CONTAINED IN A PREVIOUS AF FORM 623.

AF FORM MAR 74 623 PREVIOUS EDITION WILL BE USED

Figure A-1. AF Form 623 (first page).

III	READING ACHIEVEMENT TEST	
PART 1 (DATE AND SCORE)		PART 2 (DATE AND SCORE)

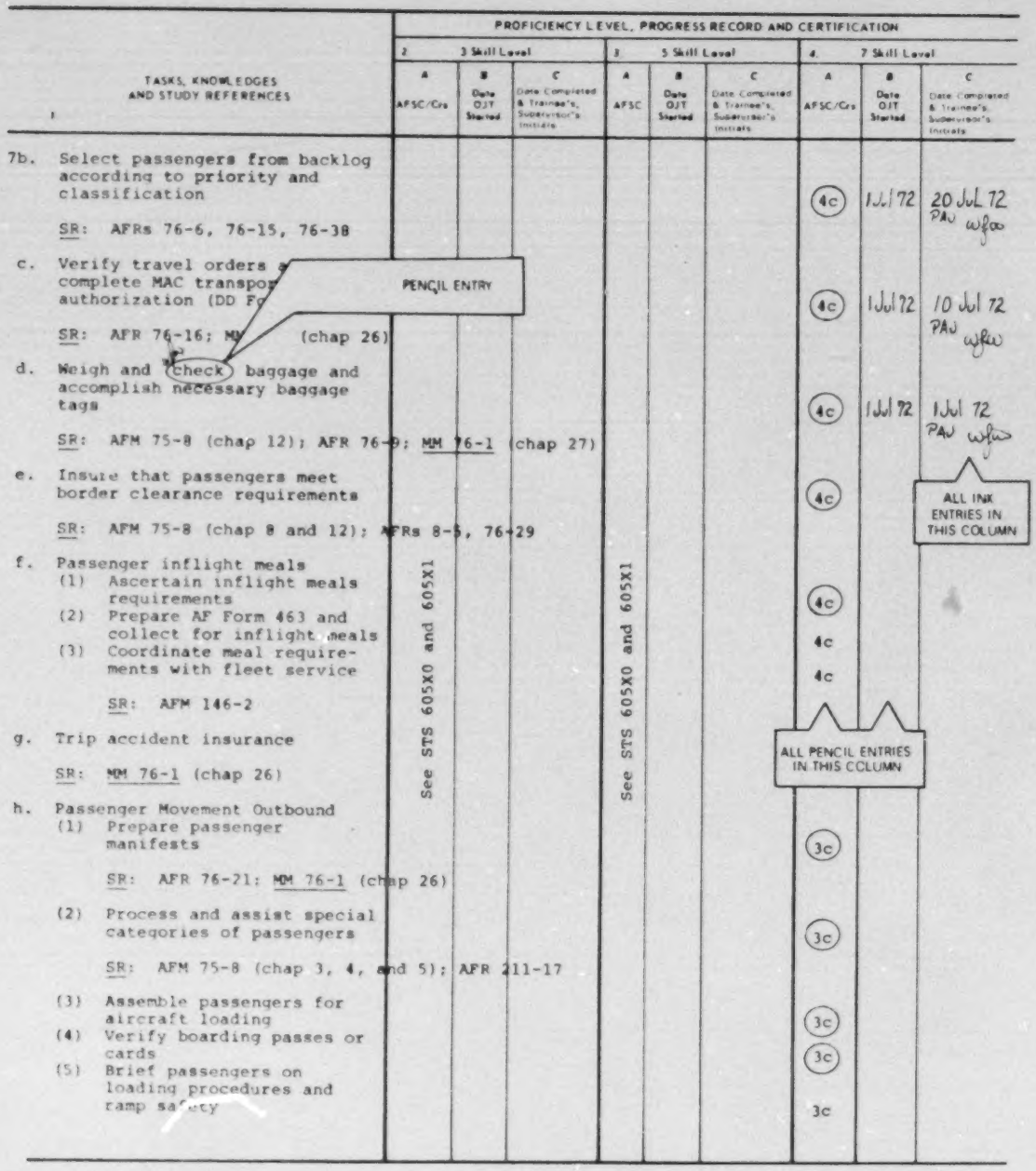
IV	ECI/CDC PARTICIPATION, ETC.					
COURSE NUMBER AND TITLE A	NO. OF VOLUMES B	DATE COMPL (MO/YR) C	COURSE NUMBER AND TITLE A	NO. OF VOLUMES B	DATE COMPL (MO/YR) C

V	TECHNICAL AND SUPERVISORY TRAINING		
COURSE NUMBER AND TITLE	DATE COMPL	COURSE NUMBER AND TITLE	DATE COMPL

Figure A-1. **AF Form 623 (second page).**

VI. REMARKS (INCLUDE DATES)

Figure A-1. AF Form 623 (third page).



TASKS, KNOWLEDGES AND STUDY REFERENCES	PROFICIENCY LEVEL, PROGRESS RECORD AND CERTIFICATION								
	2 3 Skill Level			3 5 Skill Level			4. 7 Skill Level		
	A AFSC/Crs	B Date OJT Started	C Date Completed & Trainee's, Supervisor's Initials	A AFSC	B Date OJT Started	C Date Completed & Trainee's, Supervisor's Initials	A AFSC/Crs	B Date OJT Started	C Date Completed & Trainee's, Supervisor's Initials
7b. Select passengers from backlog according to priority and classification SR: AFRs 76-6, 76-15, 76-38							4c	1 Jul 72	20 Jul 72 PAJ wfco
c. Verify travel orders & complete MAC transpor authorization (DD Fo SR: AFR 76-16; MM (chap 26)							4c	1 Jul 72	10 Jul 72 PAJ wfco
d. Weigh and check baggage and accomplish necessary baggage tags SR: AFM 75-8 (chap 12); AFR 76-9; MM 76-1 (chap 27)							4c	1 Jul 72	1 Jul 72 PAJ wfco
e. Insure that passengers meet border clearance requirements SR: AFM 75-8 (chap 8 and 12); AFRs 8-5, 76-29							4c		
f. Passenger inflight meals (1) Ascertain inflight meals requirements (2) Prepare AF Form 463 and collect for inflight meals (3) Coordinate meal requirements with fleet service SR: AFM 146-2	See STS 605X0 and 605X1			See STS 605X0 and 605X1			4c 4c 4c		
g. Trip accident insurance SR: MM 76-1 (chap 26)									
h. Passenger Movement Outbound (1) Prepare passenger manifests SR: AFR 76-21; MM 76-1 (chap 26)							3c		
(2) Process and assist special categories of passengers SR: AFM 75-8 (chap 3, 4, and 5); AFR 211-17							3c		
(3) Assemble passengers for aircraft loading							3c		
(4) Verify boarding passes or cards							3c		
(5) Brief passengers on loading procedures and ramp safety							3c		

Figure A-2. **Job Proficiency Guide, sample page.**

JOB PROFICIENCY GUIDE CONTINUATION SHEET

PARAGRAPH NO	TASKS, KNOWLEDGES AND STUDY REFERENCES	SKILL LEVEL	PROFICIENCY LEVEL	DATE OJT STARTED	DATE OJT COMPLETED	TRAINEE INITIALS	TRAINER INITIALS
		3					
		5					
7J	Processes Bluebark Personnel SR: AFR 76-1; MM 76-1 (Chapter 26)	7	4d	6Nov72	29Nov72	[illegible]	[illegible]
		3					
		5					
7K	Processes Medal of Honor holders SR: AFR 76-1	7	4d				
		3					
		5					
		7					
		3					
		5					
		7					
		3					
		5					
		7					
		3					
		5					
		7					
		3					
		5					
		7					
		3					
		5					
		7					
		3					
		5					
		7					
		3					
		5					
		7					
		3					
		5					
		7					

DATE	JPG/STS NUMBER	PAGE NUMBER
3 Jul 72	60571 JAMES, 478 66 7612	16

AF FORM NOV 68 797

Figure A-3. **AF Form 797–Job Proficiency Guide continuation sheet, showing job proficiency training assignments.**

APPENDIX B: RESULTS OF THE OJT ADVISORY SERVICE SURVEY

Background

The OJT Advisory Service Survey was conducted at the request of Headquarters, U.S. Air Force. The questionnaires were designed by Senior Master Sergeant Clifford Parks and Senior Master Sergeant William J. Williams of the OJT Advisory Service, who then mailed survey forms to OJT advisers all over the world. The OJT Advisory Service field representatives distributed the survey forms to supervisors and trainees who returned them directly to the OJT Advisory Service Headquarters at Sheppard AFB, Texas. The data were given a preliminary tally by the Headquarters Staff of the OJT Advisory Service, but the content was not analyzed.

The questionnaires were delivered to AIR in July 1973 for coding of the content, keypunching, computer runs, and statistical analysis. The work was conducted by a team of three graduate and eight undergraduate students who were temporary employees. The initial coding manuals were prepared by Mr. Eugene E. Borgida, who supervised the coding; the quality-control checks were made by Mr. Gary B. Stanley, who also acted as a coding supervisor; the computer runs and statistical analyses were conducted by Mr. John Field.

Error rates were kept to less than 1/2 of 1% by regularly scheduled quality-control checks. Rater agreement was 98% (in the sense that raters agreed upon coding a particular comment in one category rather than another).

Results

There are two types of results. Parts 1 and 2 simply give the frequency tallies and percentages for each content analysis category that was coded as a response to each question. Part 1 provides this information for trainees; Part 2 provides it for supervisors. When it seemed appropriate, comparable trainee responses were listed in Part 2, so that the reader could compare the supervisor and trainee responses to the same (or similar) questions.

Parts 3 and 4 are concerned with significant differences between maintenance and nonmaintenance specialties. A specialty was categorized as "maintenance" if it was covered by the record-keeping procedures prescribed in AFM 66-1.

Most of the percentages are difficult to interpret. Many trainees and supervisors provided several different answers to some of the questions, especially those questions inquiring about ways of improving the OJT program. So the total number of responses to many questions was larger than the number of respondents. The percentages are also greatly influenced by the number of coding categories used. In the case of a "Yes-No" question, for example, the percentages might average 50%. In the case of a question about ways of improving OJT program (where as many as 20 different content analysis categories might be used), the percentages might well average 5%.

Interpretations of selected items are provided in Section VI "Conclusions and Recommendations."

Part 1
FREQUENCY AND PERCENTAGE
OF TRAINEE RESPONSES

How Many Months Have You Been In Training?

No. of Months	*Trainees* N	%
1 - 2	316	21.7
3 - 4	374	25.7
5 - 6	340	23.4
7 - 8	133	9.2
9 - 10	106	7.3
11 - 12	99	6.8
13 - 14	37	2.5
15 - 16	16	1.1
17 - 18	12	0.8
19 - 20	2	0.1
21 - 30	13	0.9
31 - 50	4	0.3
51 - 70	1	0.1

Mean = 5.7 months
SD = 4.5 months

Did You Attend a Formal Technical School For The Award Of Your 3 Skill Level?

Answer	*Trainees* N	%
Yes	1102	69.7
No	480	30.3

Are You Enrolled in a CDC?

Answer	N	%
Yes	1343	85.8
No	223	14.2

How Many of the Volumes Have You Completed?

Number of Volumes Completed	*Trainees* N	%
None	262	16.7
1	253	16.2
2	287	18.3
3	199	12.7
4	196	12.5
5	74	4.7
6	28	1.8
7	2	0.1
8	4	0.3
9	260	16.6

Mean = 3.0

Have You Satisfactorily Completed the Course Exam?

	Trainees	
Answer	*N*	*%*
Yes	455	38
No	755	62

How Many Times Were You Administered the Course Exam?

Number of Administrations	*N*	*%*
None	849	54.2
1	532	34.0
2	160	10.0
3	18	1.2
4	2	0.1
5	2	0.1
6	0	0.0
7	0	0.0
8	1	0.1
9	1	0.1

Does Your CDC Help You on the Job?

Answer	*N*	*%*
Yes	770	52.0
To a certain extent	229	16.0
No (rarely, little)	471	32.0
other	2	--

Could You Do Your Job as Well if There Were no CDC?

Answer	*N*	*%*
Yes	868	59.0
No	529	36.0
To a certain extent	67	5.0
other	3	--

How Does the Contents of Your CDC Compare to Your Tech School Materials?

Answer	*N*	*%*
Don't know, no opinion	48	3.9
Unable to make the comparison because I did not go to Tech School	205	16.7
CDC is superior to, better than Tech School	34	2.8

	Trainees	
Answer	*N*	*%*
CDC is more comprehensive, detailed, elaborate, therefore, more informative	110	9.0
CDC and Tech School are the same (Note: this includes "similar" or "about the same")	616	50.7
CDC functions as a supplement to Tech School	37	3.0
CDC's are not as useful as Tech School	119	9.7
The CDC material is uninteresting, too technical to understand, and not as helpful as Tech School materials	61	5.0
Other	22	1.8

Would You Prefer Your Initial Training via Tech School?

Answer	*N*	*%*
Yes	1148	76.0
No	364	24.0

Would You Prefer Your Initial Training via CDC?

Yes	362	25.0
No	1109	75.0

Was the Workbook Helpful While You Were Studying the CDC?

Yes	1206	83.0
No	249	17.0

Did You Work Out the Answers to the Chapter Review Questions?

Yes	1234	84.0
No	238	16.0

Does Your JPG Identify all of Your Job Requirements?

Yes	1082	80.0
No	278	20.0

How Do You Think We Could Improve The JPG Program?

Don't Know, I have no opinion	225	26.2

Answers	*Trainees* *N*	*%*
No opinion because I do not use my OJT skills	8	0.9
I don't know what the JPG program is	33	3.8
The JPG program does not need improvement	191	22.2
Should insure that the trainee fully understands the JPG	47	5.5
Should increase the specificity of each job description	123	14.3
Should make the program more applicable to one's actual job	96	11.2
Should increase the amount of study time and advisor assistance	48	5.6
The pace of the program is too fast and slower trainees are rushed into its completion	9	1.0
Other	128	14.9

How Much Time do You Think Should Be Necessary for Upgrading to the 5-Skill Level?

No of Months		
1 - 2	65	4.7
3 - 4	220	15.9
5 - 6	637	46.0
7 - 8	155	11.2
9 - 15	271	19.6
16 - 30	36	2.6

Mean = 7.0
SD = 3.8

Why?

Answer	*Trainees* N	%
Don't know, no opinion	24	1.9
This would be the appropriate amount of time to learn the material and achieve 5-level proficiency	860	66.5
A person would need this much time to learn the material and become familiar with the new equipment (emphasis on learning new equipment)	140	10.8
Person should be upgraded as soon as he is qualified	169	13.1
Person should be upgraded upon supervisor's approval	16	1.2
Person should take his time in getting acquainted with the material to make sure that everything is understood (e.g., "the more time you spend on training the better you will be in your job") emphasis upon taking one's time, taking extra time	80	6.2
Other	35	2.7

Do You Feel That Your Supervisor Is Interested in Your Training Program?

Yes	1283	83.5
To a certain extent	89	5.8
Supervisor is too busy to spend time with me	3	0.2
No, don't know	157	10.2
Other	4	0.3

Does Your Supervisor Help You With Your Program? (Refers to Present Supervisor)

Answer	*Trainees* *N*	*%*
Yes	1216	80.6
To a certain extent	104	6.9
No	187	12.4
Other	2	0.1

To What Extent?

No response (blank) · Don't Know, no opinion	7	0.6
I have not asked for help	20	1.7
My supervisor helps as much as possible	291	24.7
Serves as a resource person by providing information and answering questions related to the CDC	642	54.6
Provides affective support and encouragement	94	8.0
Oversees and evaluate my progress	80	6.8
Supervisor reluctantly provides assistance when asked	30	2.6
Supervisor provides minimal amount of assistance	99	8.4
Supervisor helps me too much, i.e., he bugs me constantly	14	1.2
Other	12	1.0

What Is Your Number-One Complaint About the OJT Program?

Answer	*N Trainees*	*%*
Don't know, no opinion	36	2.7
No opinion at this point in training	14	1.0
I have no complaints about the OJT program, None	290	21.5
More stress should be placed on practical experience and less emphasis given to self-study and academic learning (too much stress on book work, want more time to work on aircraft-delete CDCs)	202	15.0
Should have a more collaborative classroom study format rather than self-study	45	3.3
Improve the quality of the trainee-trainer interaction and increase trainer involvement	123	9.1
Trainees should be given more responsibility for their jobs	36	2.7
The training aids and materials are too technical, uninteresting and time-consuming (CDC too vague, too general, too boring)	308	22.8
The training is basically confined to one aspect of the AFS and is not generalizable to other job tasks and equipment (e.g., "not being able to work with all the equipment")	45	3.3
Unnecessary knowledge overlap with Tech School	39	2.9

Answer	*Trainee* *N*	*%*
The pace of the program is too fast and slower trainees are rushed into its completion	78	5.8
Time requirements for proficiency training are not flexible enough to allow "fast workers" to make appropriate progress and get upgraded quickly	54	4.0
Required time lag between completion of CDC and upgrading	32	2.4
Supervisors and senior NCO's lack appropriate knowledge about OJT program	46	3.4
The OJT program should be scrapped completely	62	4.6
There is not enough time to study; shouldn't have other duties while on OJT: should have time to study during duty hours, not all during personal time	13	0.8
Have to work with wrong or outdated equipment; faulty equipment, wrong tools, no tools, etc.	6	0.4
Other	101	7.5

In Your Opinion What Could Be Done To Improve the OJT Program?

No opinion, don't know none	92	7.3
No opinion at this point in my training	14	1.1
The OJT program does not need improvement	144	11.5

Answer	Trainee N	%
Provide OJT training in the particular area to which the trainee will be assigned	119	9.5
The training is confined to only one aspect of the AFS and is not generalizable to other job tasks and equipment	40	3.2
Revise and condense the CDC volumes so that they are less technical and more interesting	140	11.2
More stress should be placed on practical experience and less emphasis given to self-study and academic learning (emphasis on work performance rather than CDC course completion)	179	14.3
Improve the quality of the trainee trainer interaction and increase trainer involvement	132	10.5
Use CDC's as a supplement to Tech School training	29	2.3
Upon completion of the CDC, upgrading should be virtually automatic	23	1.8
Trainee should be upgraded on basis other than CDC completion (e.g., supervisor upgrading those who are qualified)	32	2.5
Should have a more collaborative classroom study format rather than self-study	78	6.2
Increased individual attention and/or remedial training sessions	85	6.8

Answer	Trainees N	Trainees %
Supervisors and senior NCO's lack appropriate knowledge about OJT program	57	4.5
Improve quality of training aids and materials (refers to CDC materials)	115	9.2
OJT imparts skills but overlooks such factors as self-respect, pride, motivation, etc.	16	1.3
Place more reliance on FTD's and less on CDC's	38	3.0
The OJT program should be scrapped completely	76	6.0
Eliminate the CDCs, concentrate on practical training	20	1.3
Have time set aside during duty hours for studying and working on OJT	11	0.7
Other	108	8.6

What Is Your Overall Opinion of the Air Force OJT Program?

No opinion, don't know, None	47	3.4
No opinion at this point in my training	7	0.5
Very effective (excellent) and should be retained	104	7.6
A good method for learning your job (includes fair)	729	53.1

Answer	Trainees N	Trainees %
The program should be retained with revisions	285	20.8
Useless and should be scrapped (e.g., "I don't like the OJT program)	198	14.4
Other	5	0.4

Why?

No opinion, don't know, none	48	5.0
No opinion, at this point in my training	10	1
The program provides one with the necessary technical knowledge for upgrading (worthwhile sound program)	282	29.6
Self-study allows trainee to work at his own pace	24	2.5
Gives the trainee a chance to study while he is on the job; combining study with practical experience	123	12.9
The OJT program materials are uninteresting, too technical and do not help with the actual job performance	159	16.6
Poor applicability of OJT training to actual job environment	106	11.1
Not enough practical training included; trainees should train on equipment to which they'll be assigned	152	15.9
The program should be more closely supervised and the trainees' role should be more structured	113	11.8

Answer	*Trainee* *N*	%
Standardize OJT procedures across Air Force bases and eliminate superfluous forms (too much paper work)	57	6.0
Too much "pencil whipping" (i.e., falsifying proficiency training record and providing shoddy counseling)	29	3.0
Need better qualified instructors, too many instructors don't care or don't know their job	11	0.7

Part 2
FREQUENCY AND PERCENTAGES
OF SUPERVISOR RESPONSES

Maintenance Classification

	Supervisors		*Trainees*	
Classification	*N*	*%*	*N*	*%*
Maintenance	476	30.1	530	33.5
Nonmaintenance	1028	65.1	1009	63.7
Qualified Maintenance	76	4.8	44	2.8

How Many OJT Trainees Do You Supervise?

Trainees Supervised		
None	273	17.3
1 - 3	816	51.6
4 - 6	281	17.8
7 - 9	90	5.7
10 - 12	43	2.7
13 - 15	23	1.5
16 - 18	11	0.7
19 - 21	11	0.7
22 - 24	6	0.4
25 or more	28	1.8

Have You Reviewed the Contents of the CDC for Your AFSC?

Answer		
Yes	1415	92.7
Some	30	2.0
No	81	5.3

Do You Feel that the CDC Helps the Trainee on the Job?[a]

Yes	1185	77.6	770	52.3
To a certain extent	146	9.6	229	15.6
No (rarely, little)	197	12.9	471	32.0

[a]Trainees responded to question "Does your CDC help you on the job?"

What Is Your Opinion of the Current CDC for Your AFSC?[a]

No opinion, don't know, none.	55	3.7
CDCs are comprehensive and useful; they are appropriate for particular AFSC (include "very good," "good," "sufficient," etc.)	764	51.6
The CDCs are helpful but they should be improved.	170	11.5
CDCs should be revised and updated.	181	12.2

Answer	Supervisors N	Supervisors %	Trainees N	Trainees %
CDCs are too technical to understand and should be condensed so that they can be understood more easily; they are too general, vague, uninteresting, and time-consuming.	172	11.6		
CDCs are not comprehensive enough and do not cover all the aspects of one's job.	128	8.6		
CDCs and Tech School are essentially the same	15	1.0	616[b]	50.2
More emphasis should be placed on FTD's and/or formal tech schooling	21	1.4		
CDCs are not helpful and should be eliminated.	57	3.9	20[c]	1.3

[a]Trainees were not asked some of the questions, thus there are no data listed.

[b]Trainees responded to question "How does the content of your CDC compare to your Tech School materials?"

[c]Trainees responded to question "In your opinion what could be done to improve OJT program?" Responses coded as: Eliminate CDCs, concentrate on practical training.

What Do You Think Could Be Done To Improve the CDC?

No opinion, don't know, none.	112	8.9
CDCs do not need improvement; they are comprehensive, useful, and appropriate for particular AFSCs.	211	16.8
Should increase the specificity of the CDCs; they are not comprehensive enough.	311	24.8
CDCs should be revised and updated.	279	22.2

Answer	*Supervisors*		*Trainees*	
	N	*%*	*N*	*%*
CDC's are too technical to understand and should be condensed so that they can be understood more easily; CDCs need improvement because they are too general, vague, uninteresting and time-consuming.	171	13.6		
Place less emphasis on CDCs and more on field practice and/or formal tech schooling.	78	6.2		
CDCs are not applicable to the actual job environment.	114	9.1		
Other.	26	2.2		
Do You Help the Trainee When He Has Difficulty Understanding the Contents of His CDC?				
Don't know, no opinion, or, for example, "hasn't received CDC yet."	7	0.5		
Yes (includes "helps as much as possible," "serves as resource by answering questions," "provides personal support and encouragement," etc.).	1396	93.8		
To a certain extent (includes "help whenever I'm asked," "somewhat," "provides minimal assistance," etc.).	62	4.2		
No.	23	1.5		
Would You Prefer Your Trainees To Receive Their Initial 3-Skill Level Training via Formal Tech School?				
No opinion.	13	0.9		
Yes	1269	83.3	1148	75.9[a]
Trainees already receive Tech School training	105	6.9		

Answer	*Supervisors*		*Trainees*	
	N	*%*	*N*	*%*
No.	136	8.9	364	24.1

[a]Trainees responded to question," Would you prefer your initial training via Tech School?"

Do You Establish JPG Requirements for Your Position?

No opinion.	6	0.4
Yes	976	68.2
No	449	31.4

What Is Your Opinion About JPGs?

Don't know, no opinion (includes "CDCs have not yet been received").	73	5.1
The JPGs are a relevant, helpful outline of the career field and do not need improvement.	991	69.2
The JPGs tend to be "pencil-whipped" (i.e., falsification of proficiency records and inadequate counseling).	63	4.4
Too much emphasis on paper work and documentation.	24	1.7
More emphasis should be placed on practice and helping the trainee (includes those responses that add that there should also be less documentation).	49	3.4
JPGs are too complex and should be condensed so that they can be understood more easily; JPGs need improvement because they tend to be general and vague.	122	8.5
The JPGs should be more comprehensive and precise.	72	5.0
Other.	12	0.8
JPGs should be eliminated.	86	5.4

What Do You Think Could Be Done To Improve the JPGs?
How Do You Think We Could Improve the JPG Program?[a]

Answer	*Supervisors* *N*	*%*	*Trainees* *N*	*%*
No opinion, don't know, none.	166	14.9	16	1.3
The JPGs are a relevant helpful outline of the career field and do not need improvement.	414	37.1		
The JPG program does not need improvement.			*20*	*1.3*
The JPGs should be condensed and simplified.	99	8.9		
Reduce the amount of documentation.	30	2.7		
The JPGs need further elaboration and specification.	213	19.1		
Should increase the specificity of each job description.			*108*	*8.6*
The JPGs should be more directly related to one's actual job assignment.	151	13.5		
Should make program more applicable to one's actual job.			*47*	*3.4*
Standardize JPG throughout the Air Force; delete command additives.	59	5.3		
Other.	23	2.1		

[a]Question and answers for trainees were worded differently.

What Is Your Opinion of the Air Force Form 623?

No opinion	132	8.4
AF Form 623 is a very good (excellent) form.	28	1.8
AF Form 623 is a good (fair, adequate, sufficient, etc.) form.	184	11.6
AF Form 623 is a good form, but should be revised.	869	55.0

Answer	*Supervisors*		*Trainees*	
	N	*%*	*N*	*%*
AF Form 623 is too complicated in terms of required documentation and should be condensed.	100	6.3		
AF Form 623 is not sufficiently detailed or comprehensive.	152	9.6		
AF Form 623 is a redundant, unnecessary form.	22	1.4		
Other.	93	5.9		

How Much Time Do You Think Should Be Necessary for Upgrading to the 7-Skill Level?

Months	*Supervisors* N	%
1 - 2	8	0.5
3 - 4	31	2.1
5 - 6	268	18.3
7 - 8	105	7.2
9 - 10	84	5.7
11 - 12	647	44.3
13 - 14	9	0.6
15 - 16	18	1.2
17 - 18	94	6.4
19 - 20	0	0.0
More than 20	88	6.0
No time limit (As much time as necessary)	109	7.5

Time to train for 7 level
Mean = 11.9 months
SD = 7.5 months

How Much Time Do You Think Should Be Necessary for Upgrading to the 5-Skill Level?

Months	*Supervisors* N	%
1 - 2	14	0.9
3 - 4	111	7.5
5 - 6	709	47.9
7 - 8	146	9.9
9 - 10	66	4.5
11 - 12	287	19.4
13 - 14	2	0.1
15 - 16	2	0.1
17 - 18	17	1.1
19 - 20	0	0.0
More than 20	22	1.5
No time limit (As much time as necessary)	104	7.0

Time to train for 5 level
Mean = 7.8 months
SD = 4.0 months

Do You Think Skill Levels Should Be a Prerequisite for Promotion?

Answer	Supervisors N	Supervisors %	Trainees N	Trainees %
No opinion	4	0.3		
Yes	1372	90.5		
To a certain extent	6	0.4		
No	134	8.8		

Why Do You Think Skill Levels Should Be a Prerequisite for Promotion?

No opinion	32	2.2
Skill level should be the basis for evaluation and promotion (e.g., "to insure that the man is capable of doing the job at a desirable standard" and other quality-control responses).	1065	74.3
The need to get promoted gives trainee an incentive to be upgraded (includes possibility of becoming supervisor).	213	14.9
Trainee should be promoted on basis other than skill level (e.g., CDC completion).	121	8.4
Other	4	0.3

Do You Think Completion Of a CDC Should Be a Prerequisite for the Award of an AFSC Skill Level?

No opinion	6	0.4
Yes	1112	72.3
To a certain extent	47	3.1
No	373	24.3

Why?

CDC completion insures that the individual has learned the required skill.	873	62.3
Yes, because the CDC provides technical information that is not always encountered on the job.	278	19.8
CDCs should be used only on a selective basis, i.e., for promotion to particular skill levels	39	2.8

Answer	*Supervisors*		*Trainees*	
	N	*%*	*N*	*%*
CDCs should not be used as the sole basis for promotion (e.g., "CDC doesn't teach anything," "CDCs overlap with the STS/JPG and the latter suffice," or "CDCs do not provide you with all you need to know before promotion").	370	26.4		
No opinion	21	1.5		
Other	9	0.6		
What Is Your Number One Complaint About the OJT Program?				
Don't know, no opinion	60	4.2	36	2.7
I have no complaints about the OJT program; NONE.	229	16.2	290	21.5
More stress should be placed on practical experience and field training; less emphasis given to self-study and academic learning (e.g., "too much stress on book work" or "training not adequate - need more practical experience").	125	8.8	202	15.0
Should have a more collaborative classroom study format rather than self-study (i.e., alternatives to current CDC study format).	66	4.7	45	3.3
Trainees should be given more responsibility for their jobs (i.e., program is <u>too</u> structured and does not allow enough individual leeway).	59	4.2	123	9.1

Answer	*Supervisors*		*Trainees*	
	N	*%*	*N*	*%*
The training aids and materials are too technical (i.e., complicated), uninteresting and time-consuming (also CDC too vague, general, boring).	110	7.8	308	22.8
The training is basically confined to one aspect of the AFS and is not generalizable to other job tasks and equipment (e.g., "not being able to work with all the equipment").	31	2.2	45	3.3
Unnecessary knowledge overlap with Tech School.	15	1.1	39	2.9
The pace of the program is too fast and slower trainees are rushed into its completion.	99	7.0	78	5.8
Time requirements for proficiency training are not flexible enough to allow "fast burners" to make appropriate progress and get upgraded quickly.	82	5.8	54	4.0
NCOs and/or supervisors don't care, are apathetic.	175	12.4		
Supervisors and senior NCOs lack appropriate knowledge about OJT program.	91	6.4	46	3.4
The OJT program should be scrapped completely.	8	0.6	62	4.6
The OJT program should be more structured; improve the administration and management of the program (e.g., "changes are not implemented fast enough").	183	12.9	13	0.8
Too much emphasis on paperwork and documentation; eliminate superfluous forms and reduce documentation.	255	18.0		

Answer	*Supervisors*		*Trainees*	
	N	%	*N*	%
Other	24	1.7	101	7.5
In Your Opinion, What Could Be Done To Improve The OJT Program?				
No opinion, don't know.	78	5.9	92	7.3
The OJT program does not need improvement.	133	10.0	144	11.5
Provide OJT training in the *particular* area to which the trainee will be assigned.	84	6.3	119	9.5
The training is confined to only one aspect of the AFS and is not generalizable to other job tasks and equipment.	14	1.1	40	3.2
Revise and condense the CDC volumes so that they are less technical and more interesting (e.g.,"make CDCs more readable").	67	5.1	140	11.2
More stress should be placed on practical experience and less emphasis given to self-study and academic learning (e.g., emphasis on work performance rather than CDC course completion).	105	7.9	179	14.3
Improve the quality of the trainee-trainer interaction and increase trainer involvement (e.g., "supervisors don't care" or "trainees don't care").	218	16.4	132	10.5
Use CDCs as a supplement to Tech School training.	19	1.4	29	2.3
Upon completion of the CDC, upgrading should be virtually automatic.	36.	2.7	23	1.8
Trainee should be upgraded on basis other than CDC completion (e.g., supervisors upgrading those who are qualified).	41	3.1	32	2.5

Answer	*Supervisors*		*Trainees*	
	N	*%*	*N*	*%*
Should have a more collaborative classroom study format rather than self-study.	97	7.3	78	6.2
Increased individual attention and/or remedial training sessions.	74	5.6	85	6.8
Supervisors and senior NCOs lack appropriate knowledge about OJT program.	152	11.5	57	4.5
Improve quality of training aids and materials (refers to CDC materials in general).	65	4.9	115	9.2
OJT imparts skills but overlooks such factors as self-respect, pride, motivation, etc.	36	2.7	16	1.3
Place more emphasis on FTDs and less on CDCs (e.g., "improve CDC-Tech School link").	58	4.4	38	3.0
The OJT program should be scrapped completely.	12	0.9	76	6.0
The OJT program should be more structured; improve the administration and management of the program.	150	11.3		
Too much emphasis on paperwork and documentation; eliminate superfluous forms and reduce documentation.	140	10.5		
Airmen should choose their own specialty field or else should have better aptitude screening--airmen place in more appropriate fields.	6	0.4		
Eliminate CDC as requirement	4	0.3	20[a]	1.3
Other	43	3.2		

[a]Coded as "eliminate the CDCs, concentrate on practical training."

What Is Your Overall Opinion of the Air Force OJT Program?

Answer	Supervisors N	Supervisors %	Trainees N	Trainees %
No opinion, don't know.	21	1.5	47	3.4
Very effective (excellent, very good and should be retained).	204	14.3	104	7.6
A good (fair) method for learning AFS.	671	47.0	729	53.1
The program should be retained with revisions (i.e., the program is basically sound but would be better with certain revisions).	427	29.9	285	20.8
The program is useless and should be scrapped (e.g., "the program is a farce").	101	7.1	198	14.4
Other	3	0.2	5	0.4
Why?				
No opinion, don't know.	57	5.4	48	5.0
The program provides one with the necessary technical knowledge for upgrading (i.e., "enables him to understand what his job calls for" or "worthwhile").	408	38.3	282	29.6
Self-study allows trainee to work at his own pace.	6	0.6	24	2.5
Gives the trainee a chance to study while he is on the job; combining study with practical experience.	50	4.7	123	12.9
The OJT program materials are uninteresting, too technical and do not help with the actual job performance.	40	3.8	159	16.6
Poor applicability of OJT training to actual job environment.	51	4.8	106	11.1

Answer	*Supervisors*		*Trainees*	
	N	*%*	*N*	*%*
Not enough practical training included; trainees should train on equipment to which they'll be assigned.	111	10.4	152	15.9
The OJT program should be more structured; improve the administration and management of the program.	158	14.8	113	11.8
Too much emphasis on paperwork and documentation; eliminate superfluous forms and reduce documentation.	118	11.1		
Too much pencil whipping.	75	7.0	29	3.0
Supervisors need more free time to work with trainees.	126	11.8		
Trainees need more time available for training, study, etc., and less outside duties.	75	7.1		
Other	26	2.4		

Part 3
SIGNIFICANT DIFFERENCES BETWEEN MAINTENANCE AND NONMAINTENANCE CLASSIFICATION (TRAINEES)

How Many Months Have You Been in Training?

Months In Training	*Maintenance*		*Nonmaintenance*	
	N	*%*	*N*	*%*
1 - 2	122	25	187	20
3 - 4	132	26	236	26
5 - 6	122	24	211	22
7 - 8	37	7	94	10
9 - 10	43	9	62	7
11 - 12	30	6	63	7
13 - 14	6	1	30	3
15 - 18	5	1	23	3
19 - 20	4	1	15	2
	Mean = 5.2 mos.		Mean = 5.8 mos.	

$\chi^2 = 18.28$, $8df$, $p<.02$

Did You Attend Formal Technical School for the Award of Your 3-Skill Level?

Answer				
Yes	486	92	613	61
No	81	8	391	39

$\chi^2 = 162.10$, $1df$, $p<.01$

How Many of the Volumes Have You Completed?

None	98	18	166	16
1	86	16	158	16
2	89	17	190	19
3	82	16	110	11
4	76	14	119	12
5	19	4	55	5
6 - 8	1	1	33	3
9	79	15	178	18
	Mean = 3.0 vols.		Mean - 3.4 vols.	

$\chi^2 = 20.32$, $7df$, $p<.01$

Have You Satisfactorily Completed the Course Exam?

Yes	112	29	319	41
No	280	71	462	59

$\chi^2 = 16.92$, $1df$, $p<.01$

How Many Times Were You Administered the Course Exam?

Answer	Maintenance N	Maintenance %	Nonmaintenance N	Nonmaintenance %
Never	331	62	513	51
Once	147	28	368	36
Twice	49	9	108	11
Three or More Times	3	1	20	2

$\chi^2 = 21.85$, $3df$, $p<.01$

How Does the Contents of Your CDC Compare to Your Tech-School Materials?

Don't Know	10	2	36	5

$\chi^2 = 5.31$, $1df$, $p<.05$

Unable to make the comparison because I did not go to Tech School	24	5	170	23

$\chi^2 = 64.43$, $1df$, $p<.01$

CDC and Tech School are the same (includes "similar")	262	57	346	46

$\chi^2 = 13.59$, $1df$, $p<.01$

Would You Prefer Your Initial Training via Tech School?

Yes	418	82	716	75
No	93	18	241	25

$\chi^2 = 9.24$, $1df$, $p<.01$

Does Your JPG Identify all of Your Job Requirements?

Yes	391	84	652	77
No	76	16	196	23

$\chi^2 = 8.59$, $1df$, $p<.01$

What Is Your Number One Complaint About the OJT Program?

Answer	Maintenance N	Maintenance %	Nonmaintenance N	Nonmaintenance %
More stress should be placed on practical experience and less emphasis given to self-study and academic learning	84	18	114	13
$\chi^2 = 5.69$, 1*df*, $p<.02$				
The OJT program should be scrapped	10	2	51	6
$\chi^2 = 9.73$, 1*df*, $p<.01$				

In Your Opinion What Could Be Done to Improve the OJT Program?

Should have a more collaborative classroom study format rather than self-study	14	3	64	8
$\chi^2 = 11.37$, 1*df*, $p<.01$				
Increased individual attention and/or remedial training sessions	21	5	63	8
$\chi^2 = 4.47$, 1*df*, $p<.05$				

Why? (to the question "What Is Your Overall Opinion of the AF OJT Program?")

Not enough practical training included; trainees should train on equipment to which they'll be assigned	71	21	78	13
$\chi^2 = 9.79$, 1*df*, $p<.01$				
The program should be more closely supervised and the trainees' role should be more structured	28	8	81	14
$\chi^2 = 6.03$, 1*df*, $p<.02$				

Part 4
SIGNIFICANT DIFFERENCES BETWEEN MAINTENANCE AND NONMAINTENANCE CLASSIFICATION (SUPERVISORS)

What Is Your Opinion of the Current CDC for Your AFSC?

	Maintenance		*Nonmaintenance*	
Answer	*N*	*%*	*N*	*%*
The CDCs should be revised and updated	41	9.2	125	13.0

$\chi^2 = 4.40$, 1df, $p<.05$

What Do You Think Could Be Done To Improve the CDC?

CDCs should be revised and updated	68	17.9	197	24.1

$\chi^2 = 5.67$, 1df, $p<.02$

CDCs are not applicable to the actual job environment (refers to "more practical training," or "books are not useful, working on the job is"	46	12.1	60	7.3

$\chi^2 = 7.40$, 1df, $p<.01$

What Is Your Opinion About the JPGs?

The JPGs are a relevant, helpful outline of the career field and do not need improvement	282	64.4	658	71.1

$\chi^2 = 6.33$, 1df, $p<.02$

The JPGs tend to be "pencil-whipped" (i.e., falsification of proficiency records and inadequate counseling)	30	6.8	30	3.2

$\chi^2 = 9.19$, 1df, $p<.01$

The JPGs are too complex and should be condensed so that they can be understood more easily; JPGs need improvement because they tend to be general and vague	54	12.3	64	6.9

$\chi^2 = 11.00$, 1df, $p<.01$

Answer	*Maintenance* N	%	*Nonmaintenance* N	%
Too much emphasis on paperwork and documentation	12	2.7	11	1.2

$\chi^2 = 4.31$, 1df, $p<.05$

What Do You Think Could Be Done to Improve the JPGs?

The JPGs should be more directly related to one's actual job assignment	60	17.6	80	11.2

$\chi^2 = 8.45$, 1df, $p<.01$

What Is Your Number-One Complaint About the OJT Program?

More stress should be placed on practical experience and field training; less emphasis given to self-study and academic learning (e.g., "too much stress on book-work" or "training not adequate -- need more practical experience"	52	12.3	68	7.9

$\chi^2 = 8.70$, 1df, $p<.01$

Should have a more collaborative classroom study format rather than self-study (i.e., alternatives to current CDC study format)	10	2.4	53	5.7

$\chi^2 = 7.38$, 1df, $p<.01$

Too much emphasis on paperwork and documentation; eliminate superfluous forms and reduce documentation	102	24.1	147	15.9

$\chi^2 = 13.03$, 1df, $p<.01$

In Your Opinion What Could Be Done To Improve the OJT Program?

Revise and condense the CDC volumes so that they are less technical and more interesting	14	3.5	53	6.2

$\chi^2 = 3.90$, 1df, $p<.05$

	Maintenance		Nonmaintenance	
Answer	*N*	*%*	*N*	*%*
Stress should be placed on practical experience and less emphasis given to self-study and academic learning (e.g., emphasis on work performance rather than CDC course completion)	45	11.2	55	6.4
$\chi^2 = 8.69$, 1df, $p<.01$				
Should have a more collaborative classroom study format rather than self-study	18	4.5	73	8.5
$\chi^2 = 6.59$, 1df, $p<.02$				
Too much emphasis on paperwork and documentation; eliminate superfluous forms and reduce documentation	60	14.9	79	9.2
$\chi^2 = 9.21$, 1df, $p<.01$				
Why?				
No opinion, don't know	9	2.8	46	6.6
$\chi^2 = 6.15$, 1df, $p<.02$				
The program provides one with the necessary technical knowledge for upgrading (i.e., "enables him to understand what his job calls for" or "worthwhile")	100	31.2	288	41.3
$\chi^2 = 9.63$, 1df, $p<.01$				
Too much emphasis on paperwork and documentation; eliminate superfluous forms and reduce documentation	54	16.8	61	8.8
$\chi^2 = 14.29$, 1df, $p<.01$				
Too much "pencil whipping"	31	9.7	38	5.5
$\chi^2 = 6.15$, 1df, $p<.02$				

CE 009 995

Answer	Maintenance N	Maintenance %	Normaintenance N	Normaintenance %
Trainees need more time available for training, study, etc., and less outside duties	34	10.7	37	5.3

$\chi^2 = 9.60$, 1df, $p<.01$

Not enough practical training included; trainees should train on equipment to which they'll be assigned	44	13.7	64	9.2

$\chi^2 = 4.82$, 1df, $p<.05$

112 ☆U.S. GOVERNMENT PRINTING OFFICE: 1977- 771-057/32